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electrical and electronics  
books from the past and  
present...

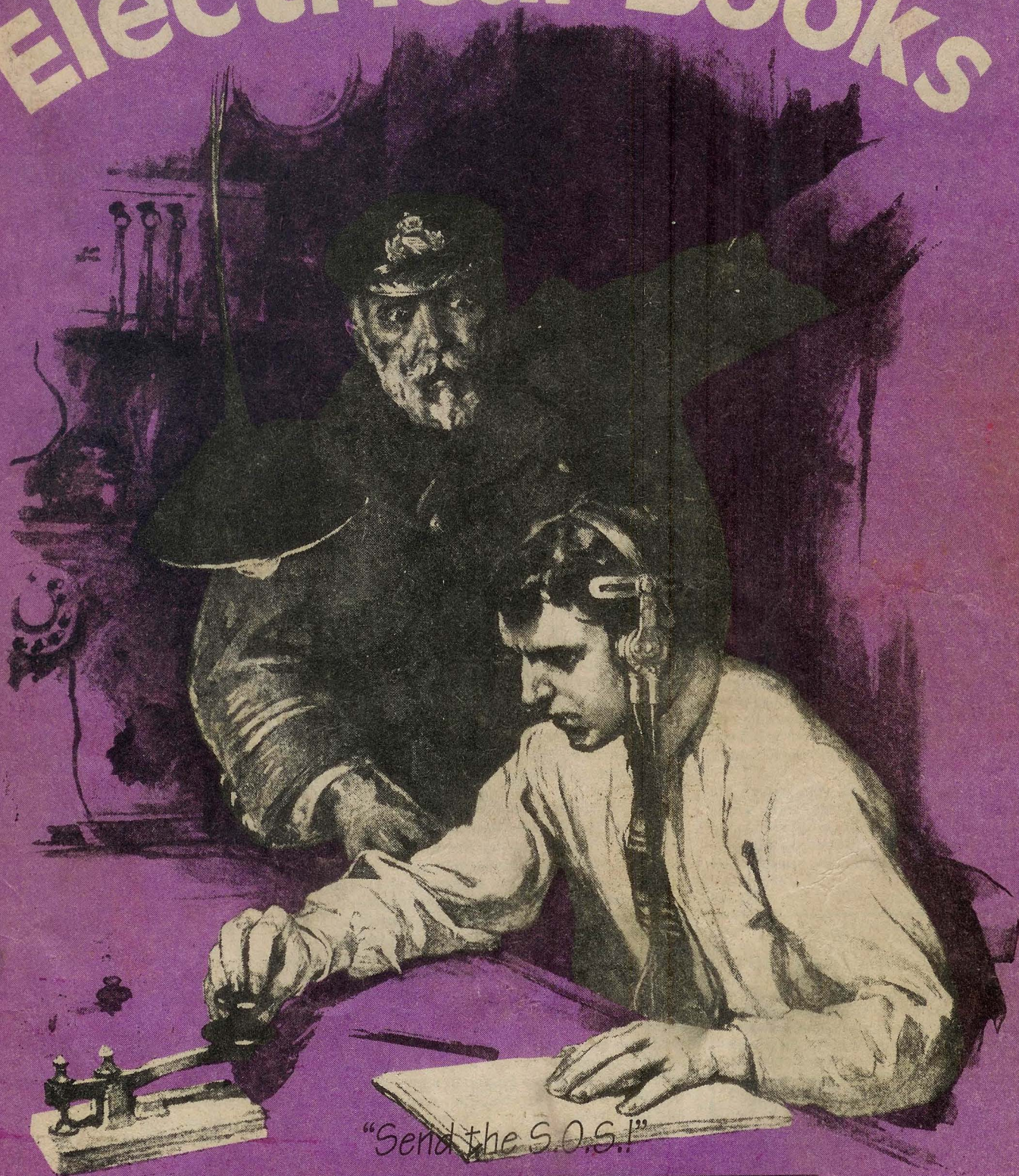
L I N D S A Y ' S

Summer 1993

No. 517

\$1.00

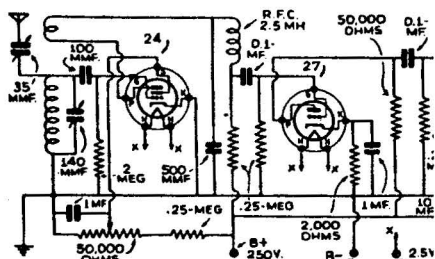
# Electrical Books



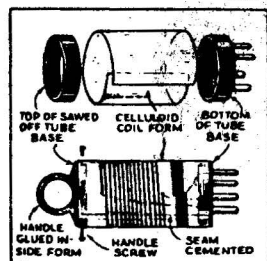
**LINDSAY PUBLICATIONS INC**

PO Box 538, Bradley IL 60915 • 815/935-5353





## Shortwave Quiz Book & Kinks!



**SHORTWAVE RADIO QUIZ BOOK AND KINKS**  
by Short Wave & Television Magazine  
reprinted by Lindsay Publications

Short Wave & Television Magazine frequently published reader's questions and answers as well as small "fillers" of circuits, hints, tips and kinks. In 1938 a collection of these tiny articles was reissued in this 64 page book.

You'll get tips on winding coils, bending chassis, soldering phone tips, making a lightning arrestor from a spark plug, plans for a rf amplifier, a 2 tube SW set, another for a motorcycle, a 2 tube battery set, a 6.3 volt 3 tuber, and on and on. There are hundreds of hints and kinks here!

You'll wish the stories were longer, but there are so many great ideas (some a little ridiculous) that you won't complain. It's fun reading. I like it, and I think you will, too. Order a copy. 5 1/2 x 8 1/2 paperback 64 pages  
Cat. no. 4945 \$4.95

## Fantastic Collection of Hints & Tips from '38

- SW Receivers for 110 VAC Operation
- AC-DC Receivers •Battery Type SW Receivers •Short-Wave Antennas •Antenna Hints •Short-Wave Converters
- Pre-Amplifiers •Miscellaneous SW Hints •Beat Oscillators •Power Supplies •Audio Amplifiers •A Folded Doublet to Save Space •How to Get Best DX •Simple 1-Tube Booster •A Twin Pentode Receiver for the Beginner
- Kinks for SW "Fan" •Easy-to-Build Short Wave Transmitters •Code Practice Oscillators •5-Meter Receivers •"Ham" Kinks

## REGENERATIVE RECEIVER

### MFJ-8100 World Band Receiver

Enough talk! Stop thinking about building a regenerative receiver, and just do it! Here's a kit that will make it easy. Or easier, still, order the wired version.

You get a solid-state regenerative receiver that performs very well. I didn't have time to build the kit, so I put a standard 9 volt transistor radio battery in the wired model, attached a ground to a water pipe and a lousy antenna consisting of an unused telephone wire extending up through my two story house. Yet, within minutes I was copying a Canadian marine station sending the latest iceberg reports to ships at sea, listening to Radio Moscow telling how submarine sandwiches are now available in Moscow for the equivalent of two weeks wages! And how cosmetic surgery was cheaper than a microwave oven! And there were radio amateurs on sideband and Morse, time stations, mysterious number stations and all the crazy things that can flood in on the shortwave bands.

You get a solid, stable regen receiver with an RF stage that adds sensitivity and isolation from the antenna, a two transistor oscillator stage, and an IC audio amp that delivers more than enough volume to "Walkman"-type earphones (not included).

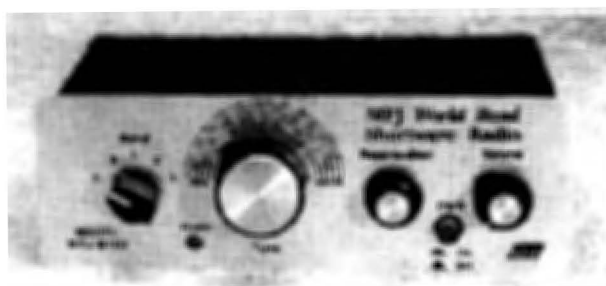
A bandswitch on the front panel lets you choose from the five bands: 3.5-4.3, 5.9-7.4, 9.5-12, 13.2-16.4, and 17.5-22 mHz. These bands will deliver just about anything you want to hear, unless you're as weird as me and enjoy listening to the marine Morse transmissions in 12 mHz band. But I'm quite sure that I can modify this baby to move into that band should I want.

Regeneration is smooth with no "fringe-howl". Tuning is smooth using a vernier dial drive on a 58 pf variable capacitor (no varactors used).

Complaints? Not enough bandspread. It tunes so fast in spots that clearing up SSB can be difficult, but certainly not impossible. Regeneration can be equally touchy, but not impossible. The receivers I have built are much better in this respect, but the bands they cover are much, much narrower. I guess the price you pay for wide frequency coverage are controls that are a little touchy.

The construction manual for the kit is quite adequate, step-by-step, with check-off lists. I don't recommend you try the kit unless you already know how to solder and know how to identify parts. This is not as simple or as well illustrated as the old Heathkit instruction manuals. You're expected to know a little something. But you shouldn't have much trouble. If you do, there's MFJ's phone number in the manual, and they can help you get it going. The kit may NOT be returned to MFJ or us once you start soldering. But if you open the box and think it's too complicated, you can return it.

This is an excellent little receiver that will pull in a lot of signals for me once I get a better antenna up. It's a way for you to experience the wonder of a simple receiver that in many ways is like the receivers of the 20's and 30's — and quite similar to the SW-3. You can use it now while you accumulate antique parts to build a tube replica in the months to come. You can use it for experiments, modifying it to change bands, for instance. Or you can use it as your main receiver. It would make a great gift for someone



## Build This Regenerative Receiver!

available as a kit  
or wired & tested



Three solid-state stages: RF, OSC & AF — Pulls in all kinds of signals on five bands!

who is learning a foreign language 'cause you'll hear them all!

Order one. It comes packed in its own carton separate from books. Earphones and battery are not included. The manual is not available separately. We'll try to stock an adequate supply, but backorders are possible. Measures 7 x 6 x 2 1/2. Get off yer duff and get started! Order one now!

Cat. no. 398 KIT  
Cat. no. 3001 Wired

\$59.95  
\$79.95

**Incredible  
How-To,  
Reference,  
and a special  
new chapter on  
solid-state sets!**



**OFFICIAL 1934  
SHORT WAVE RADIO MANUAL**  
*edited by Hugo Gernsback  
& H W Secor*

**Build simple, high-performance old timeA shortwaver radios! You can. All of the secrets are here: the circuit diagrams, parts layout, coil specifications, construction details, operation hints, and much more.**

Back in the 20's and 30's the only low-cost way of listening in on the newly discovered and fascinating shortwave radio frequencies was to build a set. Shortwave construction magazines flourished, even during the depression.

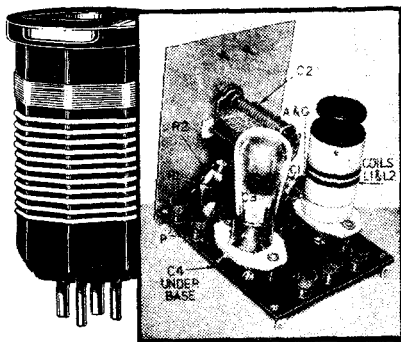
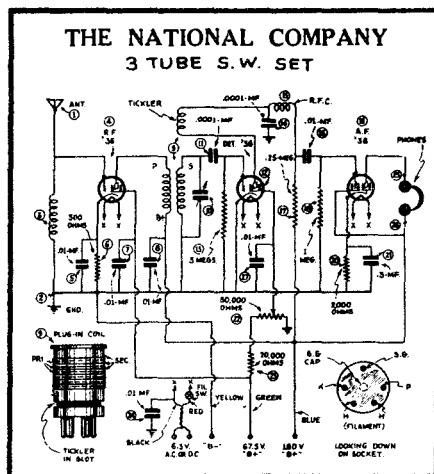
This is a compilation of construction articles from "Short Wave Craft" magazine. It's wall-to-wall how-to.

•••SECRETS OF OLD SETS!•••

At the rear of the book are circuit diagrams, photographs, and design secrets of all shortwave receivers being manufactured in 1934 including some of the most famous: SW-58, the SW-5 "Thrill Box", the deForest KR-1, the Hammurand "Comet Pro", and many more.

**••BUILD SOLID-STATE SETS!••**

You'll find that all the circuits use tubes because transistors hadn't yet been invented. And you'll also find that the original tubes listed are usually difficult to find today. Included is a new chapter showing how you can use transistors to replace hard-to-find vacuum tubes. You'll even see the circuit that was lashed together on a table top one night using junk box parts, one of my wife's hair curlers and alligator clips. When I hooked it up to an antenna strung across the basement ceiling and attached a 9 volt battery, signals started popping in like crazy. In a couple of minutes I heard an urgent message from a ship's captain off Seattle asking for a navigator to help him through shallow water. Not bad, considering I live near Chicago!



•••HOT PERFORMERS!•••

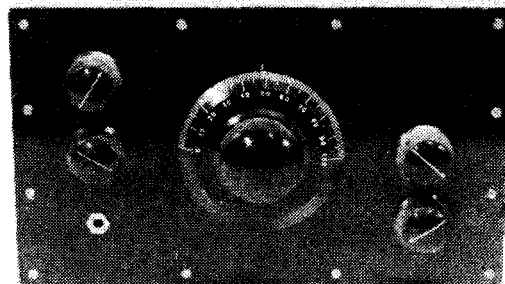
These small regenerative receivers are extremely simple, but do they ever perform! I've built dozens of them, and they never fail to amaze me! Even master machinist, Dave Gingery has built these sets.

This is the nuts for the experimenter, the survivalist who is concerned about basic communication, shortwave listeners, ham radio operators who collect old receivers, and just about anyone interested in old-time radio.

Great book. Best old-time radio book I've ever seen. And I look at every one I can get my hands on. Consider it carefully. Even if you never build one of these radios, you'll get hours of enjoyable reading out of this book. Top rate.

Order a copy.  
8 1/2 x 11 paperback 260 pages  
Cat. no. 4643 \$14.95

## Build Solid-State Regenerative Receivers!



*This is one of the brand new FET sets described in the last chapter!*

Dear Mr. Lindsay:

A good friend of mine has sent me a copy of your renowned *Short Wave Radio Manual of 1934*, the year, incidentally, that I first received my amateur license. So it takes me back most pleasantly to the days of my youth. That I have enjoyed perusing it very much goes without saying, I believe.

It was also pleasant to read your commentary upon building regenerative receivers at the back of the book. We agree perfectly upon the effectiveness of these devices. Indeed, it was the inception of this that first made practical, long-distance radio possible. A good, properly used regenerative detector may develop a gain of 30 decibels or more, equal to that of three non-regenerative cascaded stages.

But, as you know, one always gets only what one pays for. Buy a fancy, store bought receiver and you pay for results with money. Build a "homebrew" regenerative job, and you pay for it in the effort of building and operating it with patience and care, two words that most people scarcely know any more...

It has been my experience that the good old vacuum tube still makes the most effective regenerative detector, particularly the RF pentode. Next best, in the solid state line is the junction FET, as you suggest. But it takes two of these to do the job of one good pentode tube. However, all the FETs need is a nine-volt battery, no power supply required, a real advantage as you say.

Through the years I've found that the "Throttle Capacitor" mode of regeneration control, along with a properly adjusted tickler coil (as upon page 56, 58, 62, 66 and 259 of your book) is by all odds the smoothest and most effective regeneration control method. For pentode tubes, of course, a pot in the screen circuit is ok, too. But, in general, the capacitor is my favorite - never critical, noisy or "jumpy", I've found. I've also found that when a tube is used, the higher the gridleak resistor the better (my best job used a 20 megohm leak). But for FETs, one megohm seems about right. (Too low and the sensitivity is down. Too high and the thing gets "fussy.") I would disagree, but not argue with, your theory of audio feedback through the power-source. I would feel that the inductive reactive effect of the audio transformer, or choke is the culprit. Pure resistance coupling does not develop "fringe howl," for instance. Also I find that with most FETs, a 1000 ohm source resistor is better than the 2700 ohm one that you suggest in the diagram at the top of page 247.

Building and using regenerative receivers continues to be a pleasurable experience for me. I have tried to get some young fellows of my acquaintance into this sort of activity with negligible success; they'd rather spend daddy's money upon fancy, store-bought gear. They do not realize how much honest education and real, challenging adventure they're depriving themselves of by that attitude. Too bad...

You are doing your part to keep the great self-education process alive and well. Keep it up!

C. F. "Rock" Rockey  
Box 171  
Albany WI 53502

# 1914 PARTS CATALOG!

## 1914 CATALOG ELECTRO IMPORTING CO

reprinted by Lindsay Publications

It's 1914! And you've decided to build a receiver to listen in the wireless traffic that is beginning to fill the airwaves. Or you've decided to build a powerful sparkgap transmitter. Or you can't wait to duplicate Tesla's experiments. But where do you get parts?

Here you'll find the most complete selection 1914 electrical components available anywhere! You'll find the peroxide of lead detector, the "Electro" Telegraph Key, the "Electro" Leyden Jar, and even the "Electro" 1/2 KW Transformer coil that would enable you to build a 100 mile wireless coil. You'll find illustrations, text, even practical how-to tips on everything imaginable: electrolytic interrupter, kick-back preventer, precision coherer, polarized relay, vario selective coupler, "Interstate" wireless receiving outfit, "Telimco" wireless telegraph outfit no. 4, the Omnigraph No. 2777, "Bull-Dog" spark coil, fancy Geissler tubes, the experimental X-Ray outfit, X-ray tubes, storage batteries, tungsten flashlights, household wiring sockets and switches, rheostat, 150 watt gasoline home lighting plant, hydro-electric plant, electric motors, electroplating outfit, Tesla transformer, electrical medicine machines, Wimshurst machine, hand tools, and much, much more.

(No, you can't order any of the equipment listed. If you try, you'll just make a fool of yourself.)

This is a small, well-illustrated, jam-packed catalog that features unusual equipment that is no longer manufactured and no longer used. This is fun reading and great reference for the collector, restorer, or builder of replicas. You'll find this quite enjoyable. I recommend it to any antique

hardware freak, in other words, YOU! Get a copy. 4 1/2 x 6 1/2 paperback 144 pages  
Cat. no. 20587  
\$7.95



## 1936 RADIO DATA BOOK

by Radio News Magazine  
reprinted by Lindsay Publications

Get the latest radio news by studying the best articles from the 1935 issues of Radio News and Shortwave Radio Magazine.

Learn about the latest developments in television:

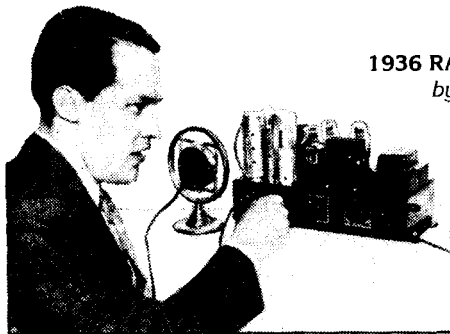
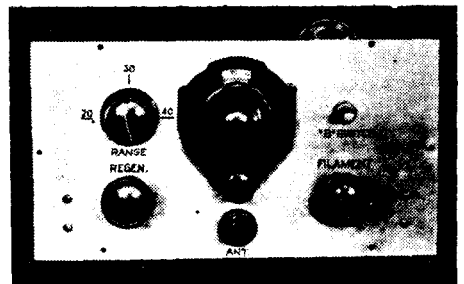
disk scanning versus cathode ray systems. Discover the brand new metal octal-base tubes and the receivers that use them such as the Atwater Kent 649, the GE A-82, and the Super Skyrider. Study plans for shortwave radios: a single tube all-wave set, a 3-band set, and 9-tube amateur receiver, and more.

Build amateur transmitters, a 3/4 meter transceiver, and use the latest transmitting tubes. Learn to build broadcast receivers: a universal superhet, a

## 1936 Radio Data Book

2-volt DX'ers Superhet, a Superhet De Luxe, and more. You also get articles on servicing, audio amplifiers, radio experimenting, station lists and more. Every page is well illustrated with photos, schematics, drawings and tables.

This is a fun book for old-time radio buffs and builders. Another great book for your radio reference library. Get a copy! 8 1/2 x 11 paperback 64 pages  
Cat. no. 20218  
\$5.95







## Radio Operator!

### EDDY'S RADIO OPERATOR

by Lt Myron F. Eddy

reprinted by Lindsay Publications Inc

Through the years the ARRL has continuously published excellent books on becoming a radio amateur. Here's "How to Become an Amateur Radio Operator and Secure a U.S. Government License including How to Learn the Code, General Radio Theory, Questions and Answers Covering the License Examination" published in 1934 by Short Wave Craft magazine.

Some of this is history - just fun to read. Some is radio theory but with vacuum tubes not transistors. Some is construction of radio receivers such as the 3 tube band-spreader, the superheterodyne, and others. You'll even get a look into the secrets of the Hammarlund "Comet Pro".

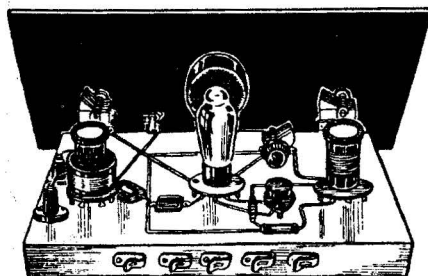
You'll learn about code and phone transmitters including construction of a bread-board push-pull code transmitter and an early crystal controlled phone transmitter with amplifier stage. The power supply, modulators and other pieces fit into an impressive homemade wooden rack mount transmitter guaranteed to impress (or scare) your 1934 neighbors!

In the back are a few ads including one for the famous National SW-3 regenerative receiver, the Kolster Model K-5 amplifier, and National's BM 3" midjet Velvet-Vernier dial.

This is fun reading and great info on early receivers and transmitters. It gives a view of amateur radio as seen from outside the ARRL. You might not want to put the transmitters on the air, but the receivers would be fun to build, and learning the code is still very valuable. Fun reading. Worthwhile addition to your collection. Order a copy! 7 1/2 x 9 1/2 paperback 72 pages

Cat. no. 20730

\$5.95



# BE A WIRELESS MAN!

### THE WIRELESS MAN

His Work and Adventures on Land and Sea

by Francis A. Collins

reprinted by Lindsay Publications

"Send out the call for assistance," said the captain [of the Titanic].

"Which call, Captain?" Phillips asked.

"The regulation international call for help." And the captain hurried away.

The C.Q.D. was instantly flashed out with the entire force of the apparatus, which was the most powerful then afloat. This continued for five minutes without receiving an answering call, when the captain again appeared in the doorway.

"What are you sending?" he asked.

"C.Q.D.," Phillips replied, suiting the action to the words.

"Send the S.O.S.," said the captain...



Send the S.O.S.!



Above: Interior of a modern wireless station  
Left: Woman wireless operator on shipboard

You can travel back to 1912 and get a first hand tour of the new wireless radio stations that were relaying Morse code signals everywhere. This was a part of "Every Boy's Library" and was the Boy Scout Edition. That means this book is fast, interesting reading with plenty of fascinating illustrations.

You can be the wireless boy, stand in the wireless room aboard ship and watch the operator test his equipment prior to sailing from the pier in New York. You can look through the log and listen in on the coded signals that the wireless operators used.

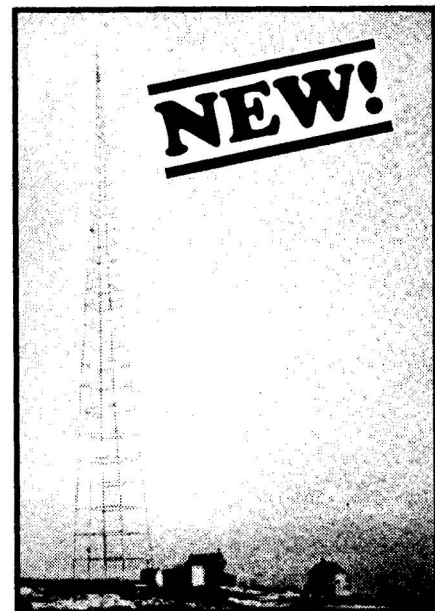
Chapters include Across the Atlantic, The Wireless Boy, How It Works, Talking Across the Atlantic, Some Stirring Wireless Rescues, Novel Uses of Wireless, Wireless in the Army, Wireless in the Navy, The Wireless Detective, and Three Heroes of the Wireless [includes the recent Titanic sinking].

Other books can tell you how to building a spark-gap radio station and even how to use it. Here you're in the middle of the exciting action as skilled operators put the apparatus to work. This is written to excite boys into exploring the new world of radio, and it will excite you, too.

Get a copy of this. Great, enjoyable reading. Just plain fun. Excellent illustrations. Unusual and worth having. Order one! 5x7 paperback 251 pages

Cat. no. 21125

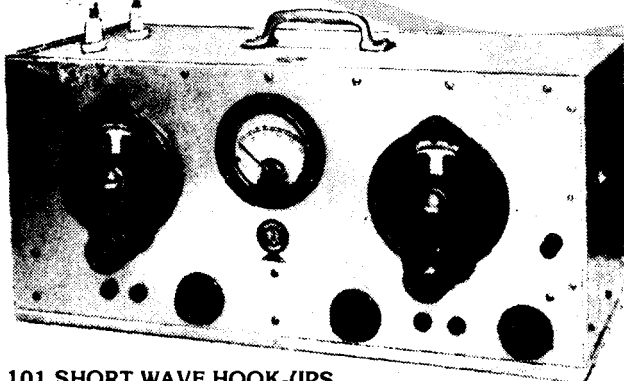
\$11.95



Wireless station at Duluth,  
working over the Great Lakes



# 101 ShortWave Hookups



## 101 SHORT WAVE HOOK-UPS

by Short Wave Craft magazine

I never get tired looking at old radio diagrams. I'm amazed at how simple equipment could perform so well! I guess that's why I like this circa 1935 circuit book.

"This book has been prepared in response to many requests for a compilation of short-wave circuit diagrams which have appeared in Short Wave Craft magazine during the past few years. Where ever possible, complete parts lists have been given with the diagrams and, in some cases photographs of the equipment are also included...."

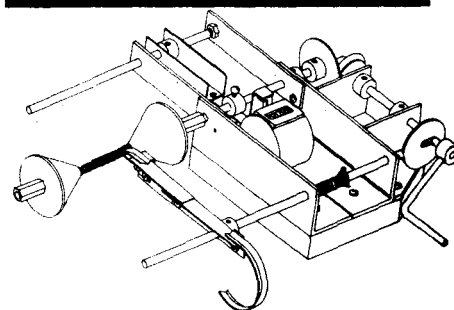
This is one big, fun picture book of radio circuits. It's broken into six broad sections entitled Straight S-W Receivers, S-W Superhetrodynes, Super-Regenerative Receivers, AC-DC Receivers, Miscellaneous, and Transmitters. Unless I counted wrong, I counted 91 different circuits.

Wall-to-wall fun. You'll like it. Order a copy. 7 1/4 x 9 1/2 paperback 72 pages  
Cat. no. 20382

\$7.95

## SOME OF THE CIRCUITS YOU'LL FIND:

The Mono Coil 2  
Ham-Band Pee-Wee 3 Tuber  
The Pal 2-Tube Portable  
The Electrodyne 1-Tube Set  
A Dual Regeneration Control Set  
An Advanced 5-Tube Receiver  
Master Composite 4  
Short-Wave Thrills on 2 Tubes  
A 4-Tube Superhet  
The Globe Girdler  
Mitchell 7-Tube Superhet  
Ultra Seven Portable All Wave  
SuperHet  
Short-Wave Megadyne  
An Improved Super Regenera-  
tor  
The 53 1-Tube Twinplex  
Building a 2-Tube Oscillodyne  
A Balanced-Detector Super-  
Regenerator  
A 5-Tube AC Oscillodyne Set  
A 5-Meter Super-Regenerator  
A German SW Set  
A Symmetrical Input Super-  
Regenerator  
A 2-Volt 3-Tube Ham Set  
5-Meter Transmitter and Re-  
ceiver  
and much more....



## Build a Universal Coil Winding Machine

by David J. Gingery

Just a few years ago, experimenters could buy two or three simple hand-operated affordable coil winders. I haven't seen any of them advertised lately. You certainly can wind coils by hand, but if you're going to do any serious experimenting with old-time shortwave circuits, a coil winder is worth having.

Dave will show you how to build a coil winder from common, easily-obtained ma-

# BUILD A COIL WINDING MACHINE

Make Professional  
Quality Coils Easily!

terials. Although it may look complex, it really is not. You'll find that it is easy to build. You don't need to be a mechanical genius, or need expensive tools. Yet this amazing little machine will professionally wind universal and honey-comb coils, single layer and multi-layer solenoids, close-wound and space wound coils, and even pi-spaced coils such as used for RF chokes and transformers.

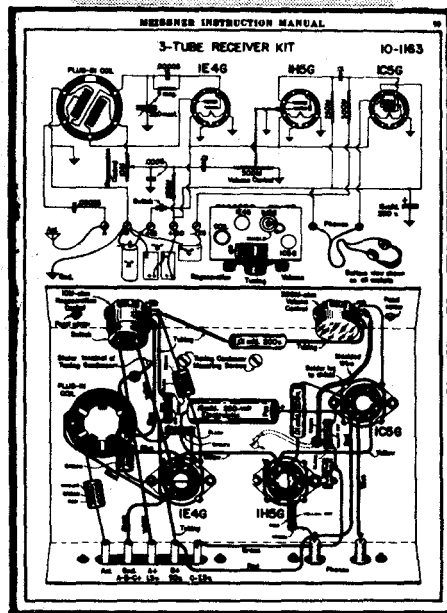
This is a typical Gingery how-to book—loaded with illustrations, dimensions, and step-by-step text that is so detailed it almost holds your hand! Excellent publication. A serious experimenter should have a copy of this and the winder it describes. Order a copy. It's excellent. 8 1/2 x 11 booklet 24 pages

Cat. no. 386

\$8.95

# MEISSNER MANUAL!

Famous Kits from 1943!



## MEISSNER "HOW TO BUILD" INSTRUCTION MANUAL (1943)

by Meissner Manufacturing Company  
reprinted by Lindsay Publications

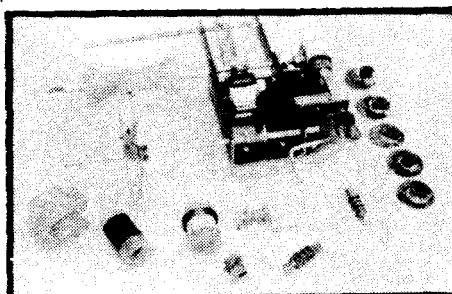
Here you get a compilation of the instructions needed to build electronic kits sold by the Meissner Company, being "Fully illustrated with charts, radio formulae, schematic circuit diagrams, and pictorial wiring diagrams."

You get general chapters on radio coils, antennas, and FM. Then you discover chapters on a FM-AM receiver, FM adapter, 5-band hi-fi superhet, the Custom All-Wave "9" (4-band hi-fi superhet), 8-Tube "Combination" Receiver, 7-tube AC "Utility" Broadcast set, 7-Tube Broadcast Police and Shortwave Receiver, 5-Tube AC TRF set, Two-Tube AC-DC Midget receiver, a three-tube version, another two-tube version, a Portable Phono Recorder, Hi-Fi Public Address Tuner, Wireless Phonograph Oscillator, Signal Calibrator, the famous Deluxe "Signal Shifter," the "Signal Spotter," the "Traffic Master"—a 14-tube 5-band Communications Receiver, the "Traffic Scout"—a 9-tube 5-band Communications receiver, and more. I count 36 different sets.

You get fairly good step-by-step how-to, the schematic, a pictorial wiring diagram showing the actual components and how they were laid out, adjustment and operating instructions.

This is octal tube equipment that still turns up at hamfests and flea markets. Great info for restoration and building from scratch. Fun! Get a copy! 8 1/2 x 11 paperback 168 pages  
Cat. no. 20633

\$9.95





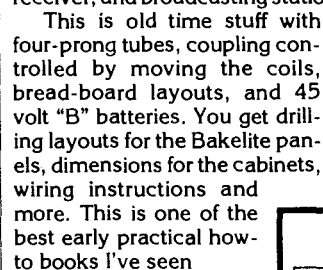
# How to Build Your Radio Receiver



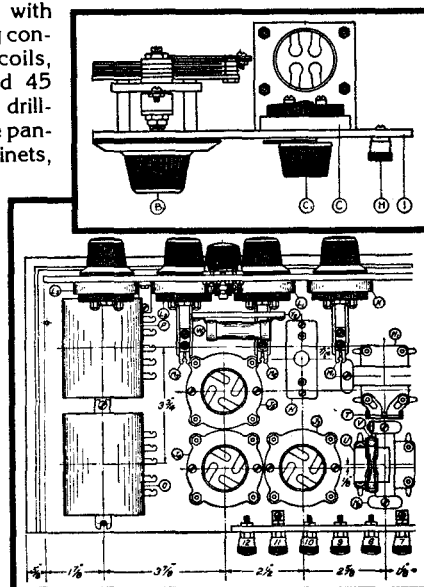
Today we talk about high tech inventions like space shuttles, computerized virtual reality, and gene-splicing. In 1924 the craze was radio.

The best thing about radio back then was that just about anybody who could save enough money to buy a vacuum tube could build their own receiver and get in on the fun. (I don't know of anybody who has their own space shuttle...)

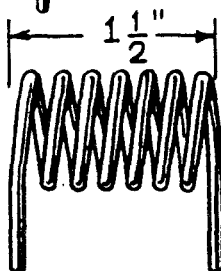
Chapters include: how to read a radio diagram, how to put up an outdoor receiving antenna, how to build an efficient crystal receiver, how to build the Haynes DX receiver, how to build a two-stage audio-frequency amplifier, how to build the four-circuit tuner, how to build a tuned radio-frequency receiver, how to build the improved four-circuit tuner, how to improve the three-tube four-circuit tuner, how to build the new regenerative super-heterodyne receiver, and broadcasting stations in the U.S. of 50-watt power or more.



If you have radios to restore, or have old parts you'd love to lash up into a working set, then this is for you. For the rest of us it's fun reading. It's technological history! Early radio at its best. Get a copy. 8 1/2 x 11 paperback 104 pages  
Cat. no. 20951  
\$8.95

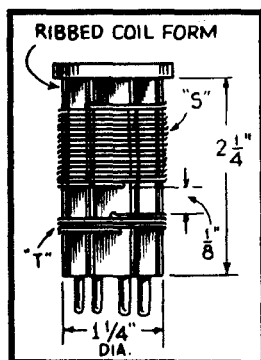


Here in one jam-packed booklet from 1937 are hints, tips, charts to help the shortwave radio builder design and build the best coils possible. You get informative articles from Gernsback magazines such as

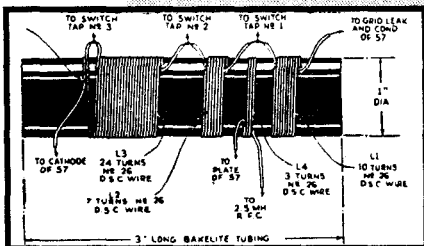


- Coil Data for TRF Receivers
- The One Tube Olsccillodyne Coils
- The Mono-Coil
- 2 Winding Coils for 10-500 Meters
- Coils for a 3 Tube Band Spreader
- and many others

You also get nine different circuit diagrams for the "Most Popular SW



# 1937 Coil Data



*Tuning Circuits" and five "Transmitting Circuits employing the coils described".*

This is highly specialized information on just one important topic essential to successful radio construction. It's only 16 pages but it's quite inexpensive and delivers. Get a copy! 8 1/2 x 11 booklet 16 pages

Cat. no. 830	\$1.95
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LINDSAY PUBLICATIONS INC, PO Box 538, Bradley IL 60915 • 815/935-5353



# Gernsback's EDUCATIONAL LIBRARY

## GERNSBACK'S EDUCATIONAL LIBRARY

reprinted by Lindsay Publications

In the late 1930's Hugo Gernsback's Radio Publications company in New York published a series of ten shortwave radio booklets to satisfy the public's growing interest in building and operating shortwave sets.

Each booklet is 32 pages in length, is well illustrated, and has a brilliant yellow cover. Each covers a different topic from radio construction to electrical experiments to television.

You'll find these little booklets fascinating reading, full of ideas, and you'll find each to be a slice of early radio history back when radios were built on breadboards with handtools instead of printed circuits.

The original booklets were printed during the Great Depression on inferior quality paper and are now quite rare. But you can get high quality copies on quality paper and enjoy them again.

Order a set today!

### NO. 1 HOW TO BUILD 4 DOERLE SHORTWAVE SETS

Build the 2-tube 12,500 mil "Doerle" shortwave receiver and the 3-tube signal gripper. You then get instructions on modifying these two basic radios into a bandsread receiver and an 110 VAC operated version.

Cat. no. 820 \$2.25

### NO. 2 HOW TO MAKE MOST POPULAR ALL WAVE 1 AND 2 TUBE RECEIVERS

Build a Megadyne one-tube loudspeaker set, a beginner's 1 tube AC-DC set, a four-in-two all-wave all electric 2-tube set, a super-regenerative single-tube loudspeaker set, a portable 2-tube battery loudspeaker receiver, and a beginner's one-tube all-wave battery set.

Cat. no. 821 \$2.25

### NO. 3 ALTERNATING CURRENT FOR BEGINNERS

Study theory, and perform home experiments with AC such as lighting a lamp induction, making a simple electric horn, watch demagnetizer, simple test for motor armature defects, bell-ringing transformer, charging storage batteries from an AC source, simple test for con-

densers, AC electromagnets, magnetic levitation, simple motors, lamp dimmer, and more.

Cat. no. 822  
\$2.25

### NO. 4 ALL ABOUT AERIALS

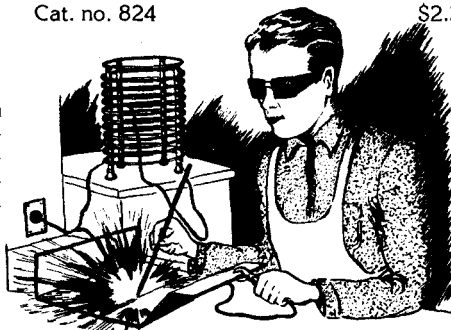
Part one covers receiving antennas with notes on tuned antennas, broadcast antennas, low impedance transmission line, doublets for shortwave, transposed leadin, a SW antenna tuner, antenna construction, a double-doublet all-wave antenna, doublet installations and more. Part II covers transmitting antennas for amateur stations including the half-wave antenna, output matching circuits, construction, the Zepp, a counterpoise system, and more.

Cat. no. 823 \$2.25

### NO. 5 BEGINNERS' RADIO DICTIONARY

A complete 32 page dictionary for beginners. Obviously, most the terms are still in use, but some are not. Brief definitions and a number of illustrations are provided. Learn about acceptors, counterpoise, ferromagnetic modulation, interrupter, keying flicker, strays, water rheostat and much more.

Cat. no. 824 \$2.25



### NO. 6 HOW TO HAVE FUN WITH RADIO

Unusual experiments! Try the "Talking Newspaper" which is nothing more than a loudspeaker made from aluminum foil and newspapers! Also try talking gloves, radio electric chair (put a frying pan in your pants), visual music, dancing to silent music, musical and talking gadgets, the radio dancer, home broadcasting, the door that talked, and more!

Cat. no. 825 \$2.25

### NO. 7 HOW TO READ RADIO DIAGRAMS

Learn how to translate radio diagrams into physical equipment. You get pictures, definitions, and equivalent symbols of radio components. Then you'll see circuit diagrams for a variety of circuits from crystal sets to multi-tube radios as well as the physical layout they represent. Basic information, but essential to



radio newcomers in 1938.

Cat. no. 826 \$2.25

### NO. 8 RADIO FOR BEGINNERS

Learn about wave analogies, principles of transmitting, and receiving principles. A lengthy section on receiving instruments will show you how tank circuits tune to particular wavelengths and how tubes and other components perform their jobs. You also get a section on antennas and aerials. Another essential booklet for the beginner.

Cat. no. 827 \$2.25

### NO. 9 SIMPLE ELECTRICAL EXPERIMENTS

Build a galvanometer, experimental magnet, simple motor, electric shocker, microphone, arc lamp, electric furnace, arc welder, a home-made key, batteryless flashlight and more. Perform tricks with telephone receivers and experiments with lamps, neon lamps, condensers, talking condensers, static electricity, and more. You'll find a brief section on making a magnet, on rheostats and how to use them, rectifiers, simple measuring instruments, heat or cold from junction of dissimilar metals, handy wire gauge, musical instruments, and more.

Cat. no. 828 \$2.25

### NO. 10 TELEVISION

In 1938 this was high-tech electronics! You get a primer of television, including details on mirror scanning, Scophony system, and movies for television. Study the kinescope or cathode ray tube and how the sweeping beam is synchronized. Learn about receiver antennas, how TV programs are broadcast, network TV, and even a Scophony system for color television! Quite interesting.

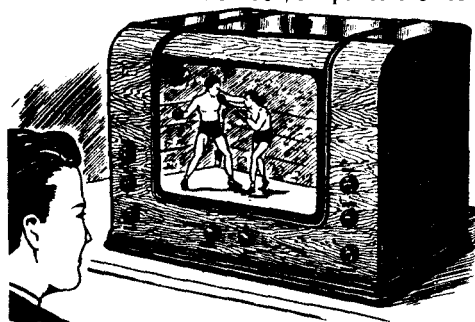
Cat. no. 829 \$2.25

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Cat. no. 930 \$9.95

#### PACKAGE NUMBERS 6 THROUGH 10

Get all five for one low price. Save \$1.30.  
Cat. no. 931 \$9.95



LINDSAY PUBLICATIONS INC, PO Box 538, Bradley IL 60915 • 815/935-5353

## 100 RADIO HOOK-UPS

by Maurice L. Muhleman  
reprinted by  
Lindsay Publications

With this inexpensive and immensely popular 1920's booklet you can go back and discover both short- and long-wave radio all over again. You get 100 different circuit diagrams using triode vacuum tubes, honeycomb coils, variometers, A.F. transformers, B batteries and all the rest.

You get hook-ups for crystal sets, plain vacuum tube sets, regeneratives, the famous Reinartz, improved Reinartz and other combination sets, RF amplifier sets, Neutrodyne, reflex circuits, super-regenerative, superheterodyne, and several miscellaneous sets.

What I don't like about the book is that the original was poorly printed on really cheap paper. We managed to "clean" up the original so that it would reproduce reasonably well. It's not as sharp and clear as I would like, but I doubt that I will ever see another copy.

You don't get detailed coil data, specifications, or how-to. This was an idea book for people who had already built a radio and wanted to try something else. Maybe you can use these circuits with modern field-effect transistors and parts salvaged from transistor radios to build modern versions. If you're good at scrounging antique parts, you might want to build a replica.

I like it. Small, inexpensive and worth having! It's from the golden age of radio. Order a copy! 5x7 paperback 48 pages  
Cat. no. 20641 \$3.95

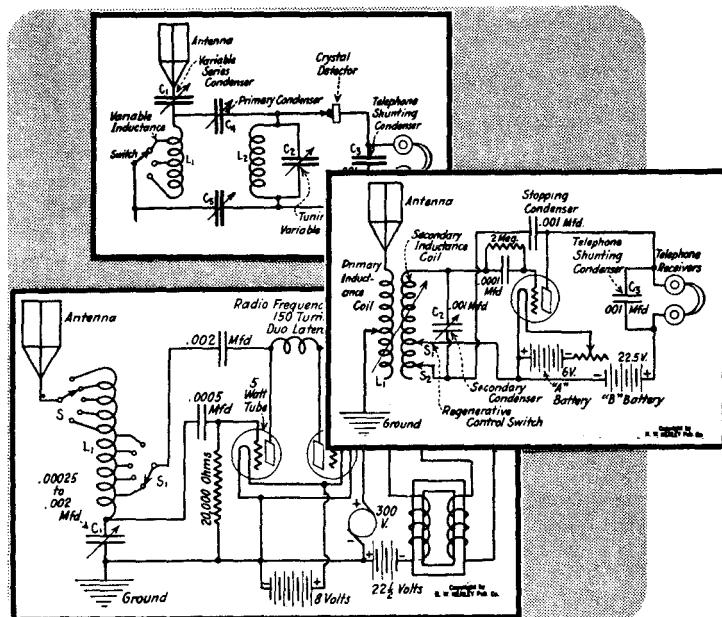
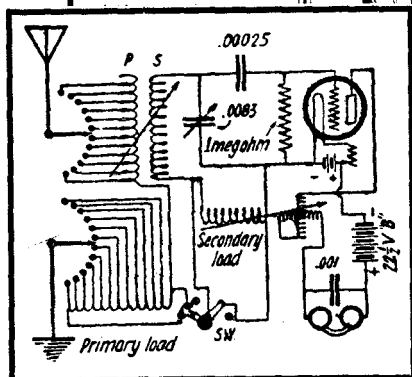
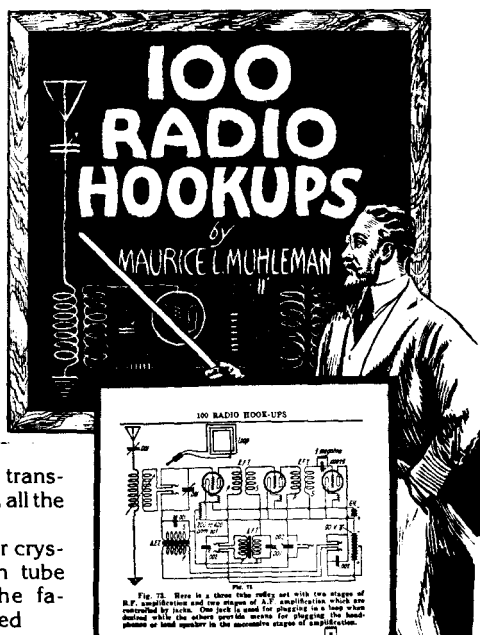
## How to Build LOUD TALKERS

### LOUD TALKERS

#### How to Build Them

by H. Winfield Secor  
reprinted by Lindsay Publications

You probably wouldn't have been able to afford a loud talker (loud speaker) back in '23. You would have had to build one. Actually this is a book about winding the electromagnetic that vibrates a diaphragm violently enough to hear it across the room when amplified with an old-fashioned horn. Sections are entitled loud-talker field frame, the diaphragm and moving coil, data on loud-talkers actually built, details of step-down transformer, connection to vacuum-tube



# 222

## RADIO CIRCUIT DESIGNS

Incredible radio plans from 1924!

### HENLEY'S 222 RADIO CIRCUIT DESIGNS

by Anderson, Mills, & Lewis

Wow! If you're into building old time radio circuits or just like to relive the old days, you MUST have this incredible book of schematics from 1924! This is "a comprehensive and up-to-date collection of modern receiving and transmitting circuits with complete design data".

You get loads of circuits on all kinds of equipment. For instance, chapter six presents 25 different schematics for the basic crystal set using every conceivable type of loading and tuning arrangement.

Chapter seven launches the reader into vacuum tube detectors some with even more incredible tuning arrangements. You'll find a variety of regenerative receivers, and even a crystal receiver with an RF amplifier!

After chapter eight on audio amplifiers comes chapter nine on miscellaneous circuits which include ultra-audio receiver, Reinartz tuner with RF, detection and audio, one-tube reflex with crystal detector, three-tube reflex with RF transformers, inverse reflex, CW receiver with BFO, three-tube neutrodyne, counter EMF circuits, Cockaday receiver, Bishop super-regenerative receiver, many others.

The final section of circuit diagrams reveals designs for spark, CW, modulated CW and AM transmitters. Transmit from your car, through power lines, or from aerials!

Relive the days of radio when circuits were simple and components hot and heavy. This book is for you. You won't find any 1/4 watt resistors, DIP IC's, or LED's. You have better start looking for iron core audio transformers, carbon microphones, and UV203's! Absolutely great book! Great fun! A must have! Order a copy. You'll like it. 5 1/2 x 8 1/2 paperback 271 pages  
Cat. no. 20323 \$11.95

amplifier set, power amplifier circuit, bi-polar loud talker made from odd parts, building the electromagnet, and more. Unfortunately, there is nothing of significance on the horn.

It's just a little booklet. The original is brittle and yellow,

having been printed on the cheapest paper. It's interesting. Rarely will you find anything on speakers. Worth adding to your radio collection. Order a copy! 5x7 booklet 48 pages  
Cat. no. 20803 \$3.50





## HOW TO BECOME A RADIO AMATEUR (1930)

by the American Radio Relay League  
reprinted by Lindsay Publications

In 1930 thousands of people were not only fascinated by the arrival of broadcast radio, but by the magic long distance communication possible through shortwaves. This simple booklet was intended to draft many of those people into the hobby of ham radio.

# HOW TO BECOME A RADIO AMATEUR

# Build a 1930 Ham Radio Station!

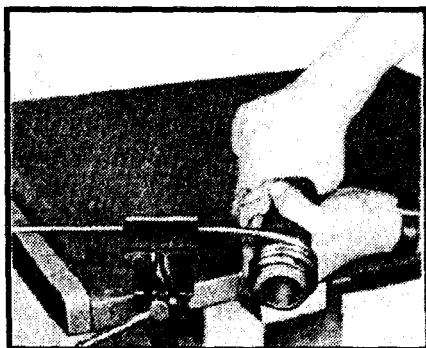
Here you'll discover the amateur bands as they then existed, how to learn Morse code, how to build a two-tube (UV-201-A) bread board regenerative receiver for the 80 meter band, an oscillating transmitter using a UX-210 tube, an AC power supply, tips on setting up the radio station, and finally how to operate it.

Not only is this great nostalgia, it is also quite practical should you want to build a copy of the regenerative receiver. You may want to build a copy of the transmitter for display or occasional demonstration, but you probably wouldn't want to use it on the air.

Discover 1930 ham radio. Build early equipment. Lots of fun reading. Low cost. Get a copy.

8 1/2 x 11 booklet —32 pages  
Cat. no. 20226

\$2.95



# 1001 RADIO QUESTIONS & ANSWERS

## 1001 RADIO QUESTIONS AND ANSWERS - 1926

edited by Leon L. Adelman of

Radio News Magazine

reprinted by Lindsay Publications

Back in '26, readers of *Radio News Magazine* were building their own sets. Many of them wrote the editors with questions for which they needed answers, some very simple, others quite technical. The questions along with expert answers were printed in the magazine for other readers. In 1926 the best questions and answers were compiled into this enjoyable book.

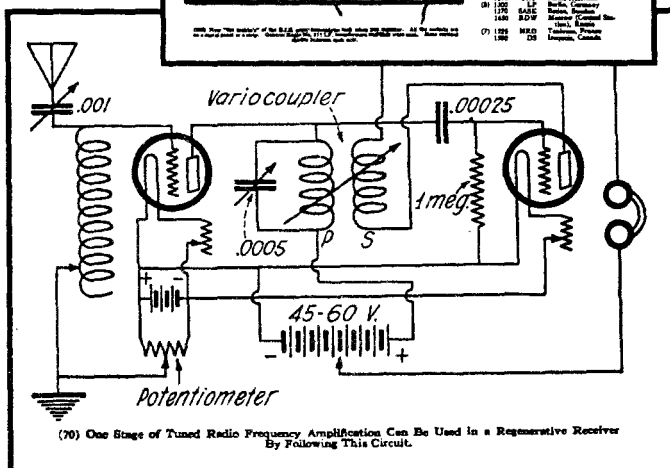
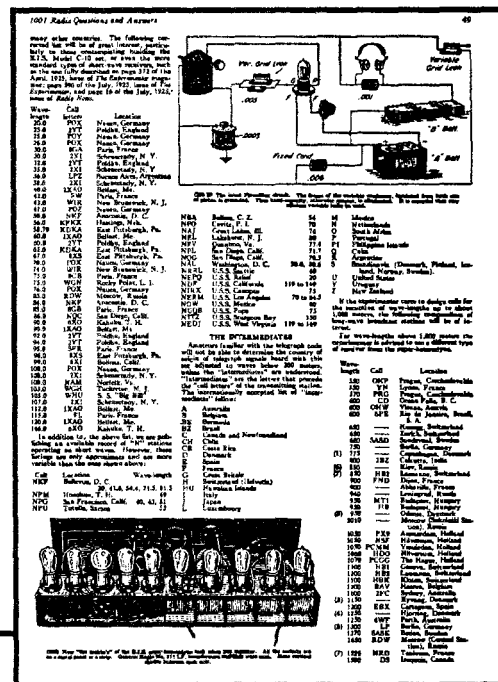
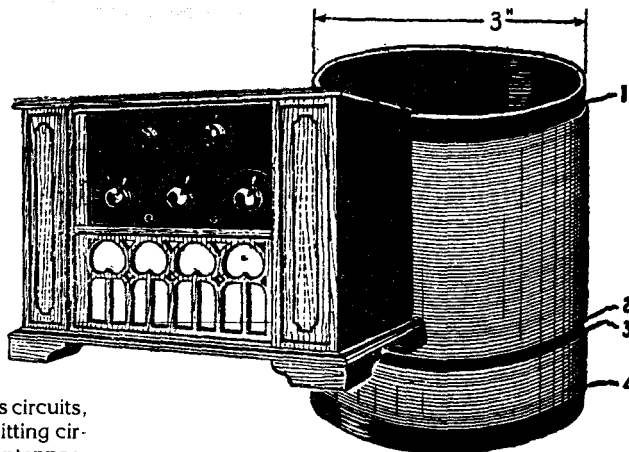
Chapters include: miscellaneous circuits, popular circuits, tube data, transmitting circuits, current supply, amplifiers, antennae, and miscellaneous apparatus.

You'll see circuits for adding RF stages to regenerative receivers, circuits to sharpen tuning, a 5-tube 2-dial TRF set, circuits for cascaded regeneration, and dozens of other ideas some of which neither of us has ever seen. You get discussions concerning the use of Litzendraht wire for coil winding, new fangled superheterodynes, wave-trap design, and the inverse duplex receiver (whatever that is?).

You'll find the schematic for the Universal Plio-6 receiver capable of handling everything from 35 to 3,500 meter wavelengths. Another reader wanted info on the new DeForest F-5 receiver, and he got it. And there's so much more.

You get page after page of radio diagrams, most of them related to receiving. And this is unusual stuff – the nitty-gritty details that you generally don't find in how-to books because it's so specific. Yet, these details often contain hints, tips, and secrets the old-timers acquired by experience and then took with them to their graves. You may find just about anything here.

This is another fascinating, easy-to-read book that will keep you occupied for hours. The original is on really cheap paper that is yellowed and disintegrating. A couple of pages actually have a couple of small holes (imagination will be required during reading). This book is rapidly going to its own grave, so it's time to reprint it. It's something that should not be lost. That means that it's something you should have in your reference library. Order a copy today! 8 1/2 x 11 paper-back 96 pages Cat. no. 21001 \$8.95



# VACUUM TUBES in Wireless Communication

## VACUUM TUBES IN WIRELESS COMMUNICATION

by Elmer E. Bucher

In 1919 radio had proven itself in the just-ended First World War. Radio's future looked bright.

The author explained his purpose in writing this book:

"In preparing the text of this book, the author had two principal objects in view: (1) to provide the Government and commercial wireless operator with a brief and simple explanation of the functioning of the circuits of the vacuum tube, (2) to lay before the experimenter and the practical operator the numerous circuits employed from time to time in the laboratory and in commercial practice.

Outside of its obvious commercial value, the perfected vacuum tube affords the experimenter a most fascinating field of research. This is well evidenced by the fact that a single bulb with associated tuning apparatus connected to a four wire aerial 200 feet in length permits wireless signals to be received over distances 2,500 to 4,000 miles in daylight, and up to 6,000 miles in darkness."

On the title page is another description that says it all. "This volume shows over 140 different circuits for the practical use of Vacuum Tubes as Detectors, Radio or Audio Frequency Amplifiers, Regenerative Receivers, Beat Receivers, and Generators of Radio Frequency Currents.

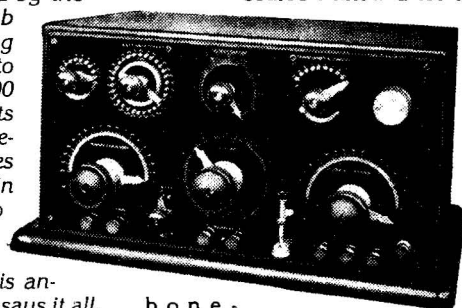
The Two, Three and Four Element Oscillation Valves are described in detail together with the circuits used in daily practice. Cascade Amplifiers of the latest type for long distance reception are comprehensively treated. Up-

to-date circuits for long distance receptions are comprehensively treated..."

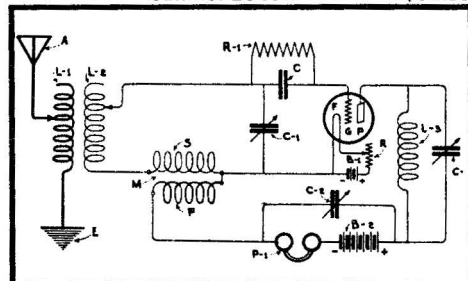
This almost all circuit diagrams, many being brand new to me. How about regenerative cascade systems, a modified Weagant Beat receiver, Espenschied's Duplex Wireless Telephone system, or circuits using

unusual tubes such as the Dynatron, the Pliodynatron, the Kenotron, or the Plotron? Back then, this book described the cutting of technology as radio began to move away from spark gap code transmission to continuous wave methods using tubes.

This is a great collection of very unusual radio history — something you don't find everyday. 'Course I know a lot of



bone heads who would be just as happy if they NEVER found it any day. But don't you be one of them. Consider this carefully. Its unusual. 5 1/2 x 8 1/2 paperback 208 pages Cat. no. 20412 \$12.95



# HOW AND WHY

## THE HOW AND WHY OF RADIO APPARATUS

by H. W. Secor, E.E.

reprinted by Lindsay Publications

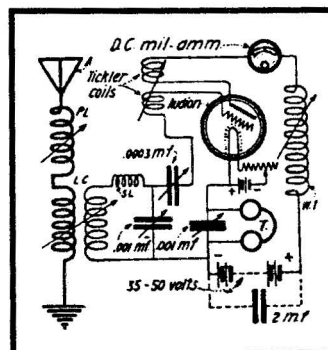
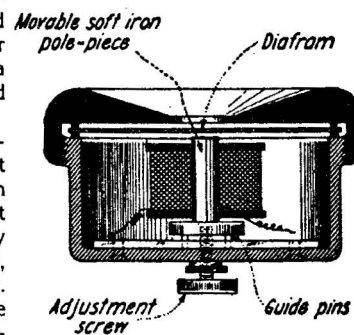
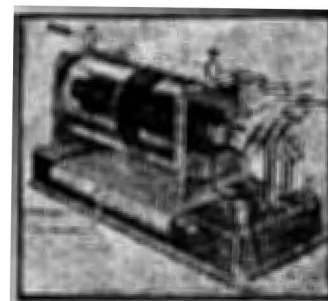
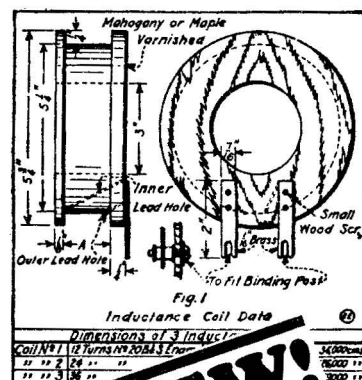
Back in 1922 when shortwaves were the newest high tech frontier being explored, everybody and his brother was wanting to build a shortwave set and tune in on the fun. Magazines and books could tell you how to bolt together a set but rarely told you anything about why or how it worked. If you wanted to modify it or improve it, you would probably use a trial-and-error engineering approach. And that usually doesn't work very well.

Secor set out to explain to his readers how components worked individually and together, and without using heavy math to do so. This book provided the "practical theory" experimenters needed.

Chapters include: The Induction Coil, The Transformer, Radio Transmitting Condensers, Spark Gaps, Radio Transmitting Inductances, Radio Receiving Tuners, Radio Receiving Condensers, Detectors, Telephone Receivers, Radio Amplifiers, How to Make and Use a Direct-Reading Wave Meter and Decimeter, Radio Antenna Construction, The Calculation and Measurement of Inductance.

This is great stuff for experimenters old and new. You won't find much in modern books on spark gaps and variometers. A lot of this is quaint reading. You may not want to duplicate the circuits, but you can in your imagination. Building the direct reading wave meter could be fun. And the calculation and measurement of inductance is interesting, too. Tesla coil builders might benefit from some of this info, since a Tesla coil is a primitive radio transmitter.

This is an unusual early radio book that compliments the books that are little more than circuit diagrams. Here, you'll "crawl" inside the head of the old-time builders and learn how they saw the new field of electronics opening up. I like it. I think you will, too. Get a copy! 6x9 paperback 160 pages Cat. no. 21133 \$8.95







## EMPIRE OF THE AIR THE MEN WHO MADE RADIO

by Tom Lewis

From the back cover:  
"Empire of the Air tells the almost-unknown story of three American visionaries whose imagination and dreams turned a hobbyists' toy into radio, launching the modern communication age. It is a tale of pioneers on the frontier of a new technology, of American entrepreneurial spirit, and of the tragic collision between the lone inventor and the large corporation. A magnificently researched biography of extraordinary men whose achievements changed our lives forever.

## THE MEN WHO MADE RADIO

"The story of our breakaway times cannot be properly told or understood without the story of radio, and the story of radio has never been better told than in *Empire of the Air*. Tom Lewis has written what is at once a superb chronicle of a revolutionary new force in modern life and a vivid portrait of the three extraordinary men who made it happen—three authentic American pioneers if ever there were—Armstrong, de Forest, and Sarnoff. This is a first-rate, much-needed book." — David McCullough

Tom Lewis has combined his interests in technology, biography, history, and literature in articles, books, and the writing and producing of documentary films. He is a professor of English at Skidmore College in Saratoga Springs, New York."

If you have seen the television special in recent years covering the development of radio, you know about the geniuses involved, the cut-throat business practices, and the soap-opera-like developments that make this history flat out incredible, almost beyond belief.

Here in one volume, along with many vintage photos, is the complete story. You get much more detail than you ever could just watching television. If the history of commercial radio is your thing, this is a must have. Good reading. 5 1/2 x 8 paperback 421 pages  
Cat. no. 397

\$13.00

## DOERLE CATALOG

originally offered by Oscar Kusterman,  
NY

reprinted by Lindsay Publications

Here's a great little 1930's catalog issued by NY radio dealer, Oscar B. Kusterman. You get great illustrations and descriptive copy of receivers and ham radio transmitters, along with schematics and practical details.

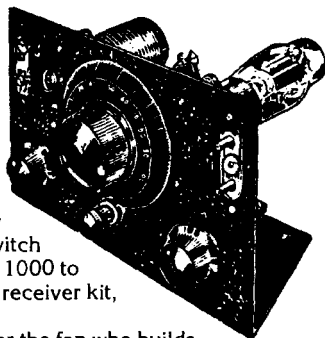
Examine the Doerle Model D-7 with its 6K7 RF amp feeding a regenerative detective and powerful AF amplifier. A separate 6J5 acts as a superregenerative detector for 2 1/2, 5, and 10 meters. You get the complete wiring diagram.

The sw regenerative receiver used a pair of 37's to cover the bands from 600 to 12 meters. A complete kit sold for only \$2.50 less tubes! The 3-tube AC-DC receiver covered 600 to 12 meters using the three 76's and running off batteries or 110 VAC. Study the five tube BS-5 Five Band Bandswitch Receiver, the Doerle Model D-5 cover 1000 to 9 meters, the Doerle "19" single tube receiver kit, the Doerle AC 4, and more.

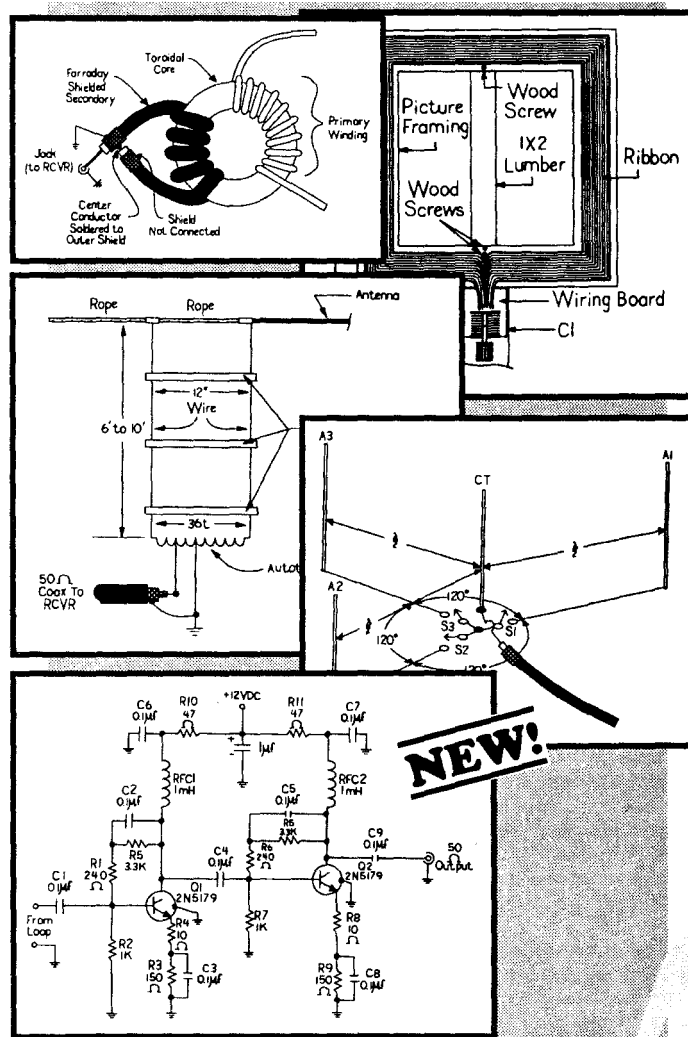
You get a whole page of circuits "for the fan who builds his own receiver hookups." At the back of the catalog is an order blank, but don't try to use it. I've already notified the New York City postoffice, and if you try to order any of this merchandise, postal authorities will track you down and have you put away where you belong.

But that doesn't mean you can't browse through this catalog and imagine operating one of these sets. What's more, you can start searching for old parts so that you can build one of these famous little radios. It's well illustrated, fun to read, and inexpensive. Order a copy today! 8 1/2 x 11 booklet 24 pages well illustrated  
Cat. no. 20455

\$6.50



# DOERLE



**HAMMARLUND SHORT  
WAVE MANUAL**  
Third Edition  
reprinted by Lindsay Pub-  
lications Inc

For only ten cents you could by this 32 page booklet and choose which of the twelve different shortwave radios you wanted to build. These were the depression years, and Hammarlund, one of the most reputable manufacturer of radio parts, was eager to sell you what you needed to build a low-cost receiver.

You'll like this! The plans offer interesting detailed text that makes construction easy along with the basic schematic diagram, a parts connection diagram, tube pin layouts, coil charts and lots of photographs. I haven't seen any plans better done than these!



The "Pentaflex" uses a single 6A7 pentagrid converter tube as a regenerative detector and as an audio amplifier. This could be fun to build.

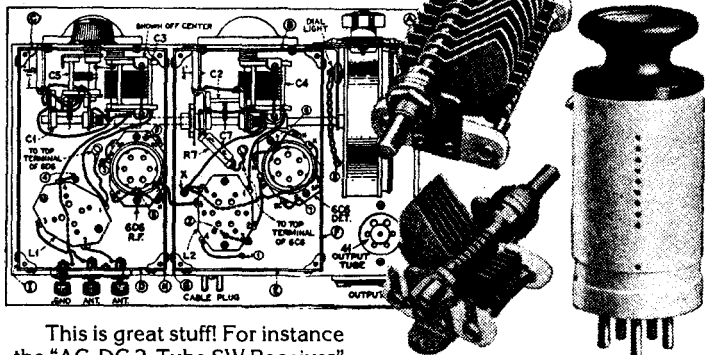
## 12 SW RECEIVERS from Hammarlund!

You get—

- A Boy Scout's S.W. Receiver
- ARRL Ham Receiver
- The Argonaut
- The AC-DC 2 Tube S.W. Receiver
- Doerle 2-Tube Receiver
- The Dragnet
- The Gainer
- The Pentaflex
- A Power Pack for S.W. Receivers
- Radio Amateur's Handbook 3-Tube Band Spread AC set
- The Ray Five Meter Set
- The Skyscraper
- A Three Tube S.W. Pentode Receiver

And the "Ray Five Meter Set" is a three tube super-regenerative set for the then-experimental band of 5 meters (about 60 MHz). Back then a five meter set was a marvel! And there are nine other circuits plus a battery eliminator project.

## Great 1937 Plan Book!



This is great stuff! For instance the "AC-DC 2-Tube SW Receiver" uses two double tubes, a 6F7 as an untuned RF amplifier and a tuned regenerative detector, and a 12A7 as audio amplifier and rectifier. The circuit is surprisingly simple, and yet I'm sure it performs very well!

This is fun reading and a great source of construction ideas. Get a copy of this. The price is reasonable and the content is super. Order a copy today. You'll enjoy it. 5 1/2 x 8 1/2 booklet 32 pages  
Cat. no. 4937 \$4.95

# Radio for the Millions

## Great World War II Era Magazine Articles



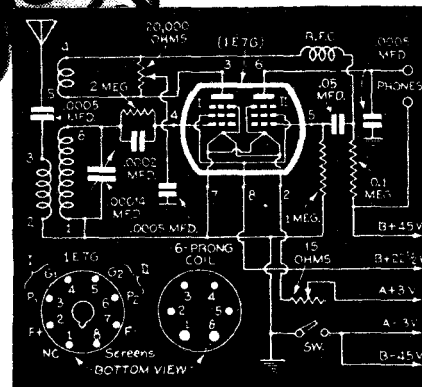
### RADIO FOR THE MILLIONS

by Popular  
Science Monthly  
reprinted by Lindsay  
Publications

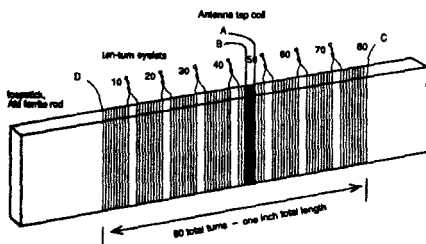
From the pages of World War II vintage issues of Popular Science Magazine came this reprint of well illustrated electronics articles on everything from phonographs and shortwave radios to cabinet design and radio servicing.

This is another of those jam-packed project books that are so much fun to read. By careful scrounging and trading you can still get many of the parts and relive the early days of electronics before transistors and integrated circuits.

Every one of the dozens of articles is illustrated with sharp pho-







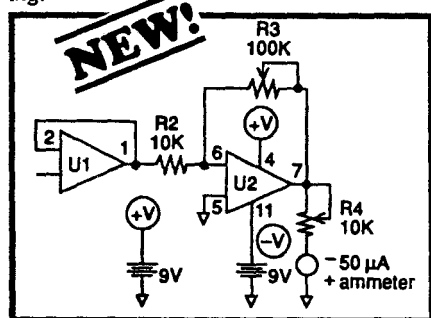
## XTAL Set Society Newsletter

Reprints from July 91 to May 92

by Phil Anderson, W0X1

Radio can't get any simpler than crystal sets! Anyone can build one! But what do you do after you've wrapped an oatmeal box with wire? Here's your answer.

In July 1991 Phil Anderson from Lawrence, Kansas launched "The XTAL Set Society". You should have signed up. But you still can. And! You can find out what you missed by ordering a copy of this reprint of his newsletters for the first year. If you're into crystal sets, you'll find this interesting reading.

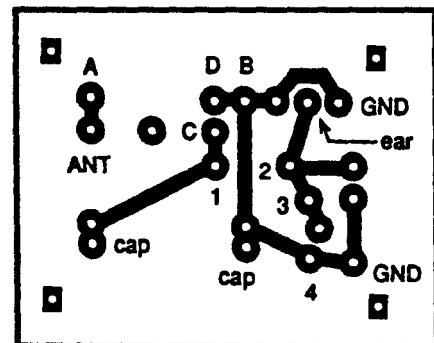


You get articles on building a basic field strength meter, a shortwave crystal set, "Why Did Those 1920s Crystal Sets Work Anyway?", a bare bones crystal set, an FM crystal set, a five part compression-capacitor crystal set (with part sources), a list of early articles on crystal sets, a toroidal crystal set, matching your antenna to your set for maximum signal reception, detector analysis, a 20 part crystal set, and other bits and pieces.

Yes, you'll find info on joining the society. Crystal sets are fascinating because of the challenge of getting more performance out of less hardware - a move from complexity to simplicity. That's a refreshing change! I think you'll find this quite interesting. Get a copy! 8 1/2 x 11 plastic spiral binding about 36 pages

Cat. no. 395

\$10.95



## ELECTRICAL GOODS AND RADIO APPARATUS - 1922

by Sears Roebuck and Co.  
reprinted by Lindsay Publications

In 1922 the shortwave bands were being explored, and everyone was excited. To transmit, or even listen in inexpensively, you almost had to build your own equipment. The place to get your components was none other than this specialized Sears Roebuck catalog. For radio freaks, this was the other "Wish Book".

In the first 16 pages you can choose from practical appliances such as powerful electric vacuum cleaners, medical "batteries", fans, toasters, irons, magneto telephones, telephone switchboards, kinky vibrators, telegraph sets, and even electric wringer washers.

But it's the last 44 pages offering radio equipment that will really fire you up. You can imagine yourself ordering Navy telegraph keys, galena detectors, heavy-duty spark gaps, spark coils, radiation ammeters, UV-200 (and other) vacuum tubes, variable condensers, earphones, 10,000 volt transformers, rotary spark gaps, variometers, Bakelite panels, and everything you could want to build that dream radio station. Certainly you've seen Sears' modern tool catalogs. This is the 1922 electrical equivalent. It's great!

## Sears & Roebuck was the place to buy your shortwave radio parts in 1922!

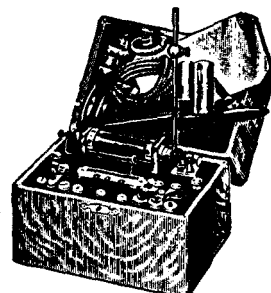
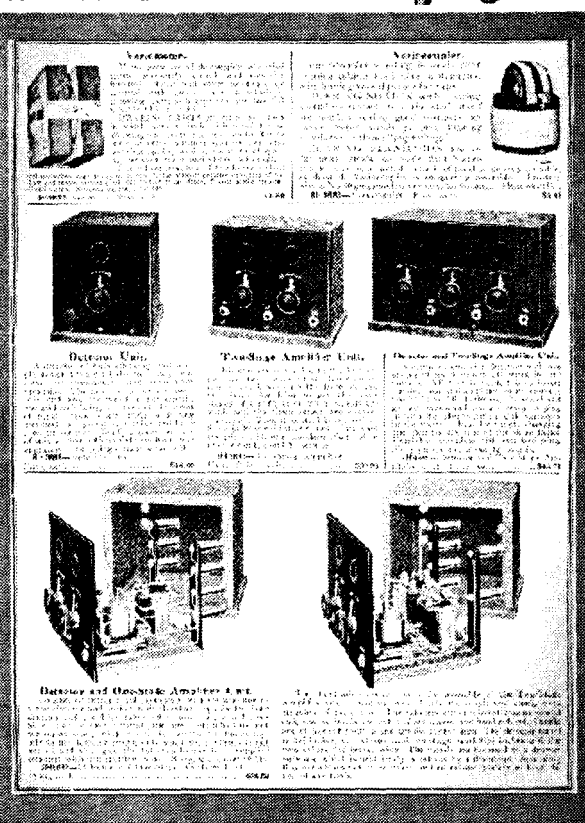
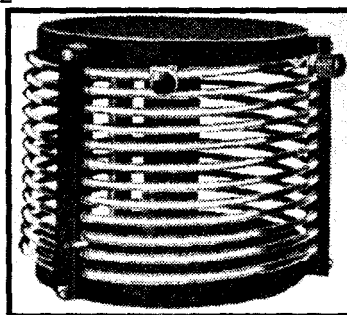
Now don't be a dipstick by walking in to your local Sears store and trying to order this stuff. They'll have you put away. This catalog is for pure enjoyment - for imaging what the early exciting days of shortwave radio must have been like. This is also great for the guy who wants to build (or possibly restore) a radio that looks like something from the old days. It's wall-to-wall illustrations being mostly photographs. It leaves little to the imagination.

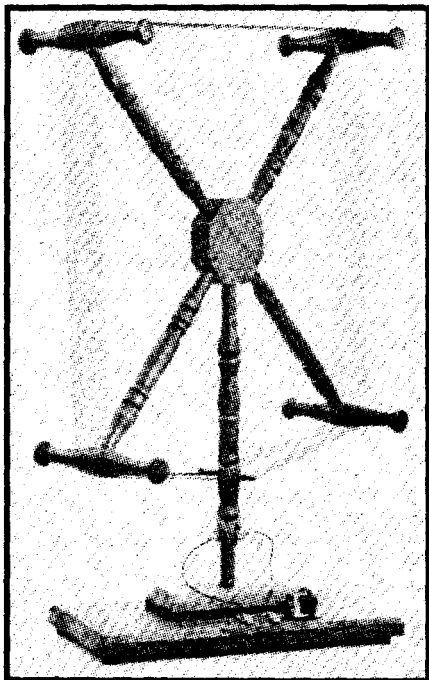
As soon as I saw this I knew it had to be reprinted. This is one of the gems we would never have seen if Mr. Knutson in Wisconsin hadn't made his copy available to us. Now the rest of us can enjoy this fun catalog.

Do I like it? Can't you tell? If you like old radio, you'll like this. It's obviously easy to read. It's perfect for those evenings when I kick my brain back to idle and vegetate. Fun reading. Get a copy. You'll like it, too. 8 1/2 x 11 paperback 60 pages

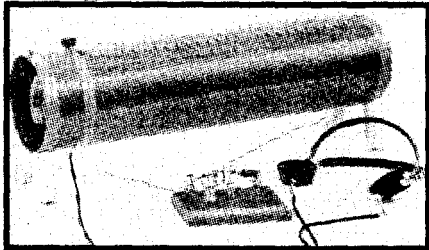
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## Crystal Sets!

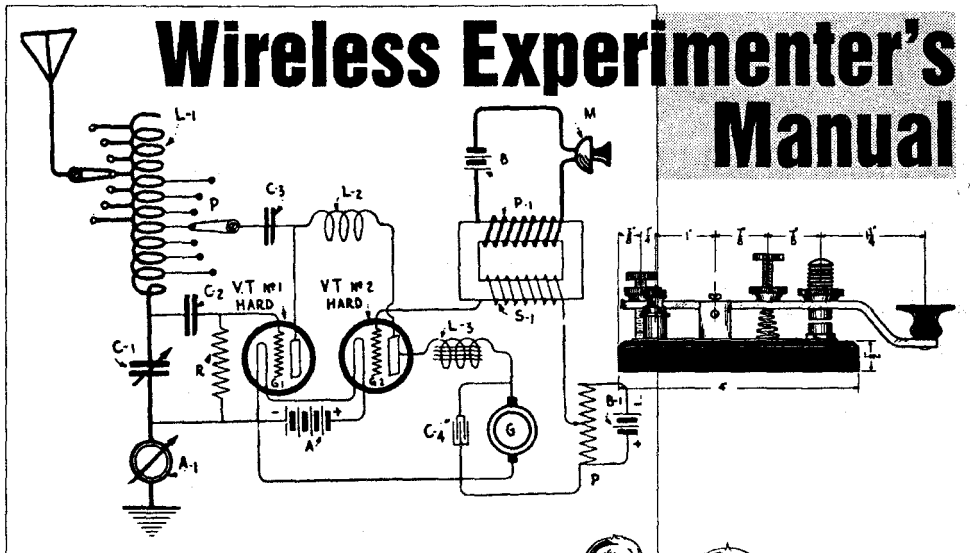
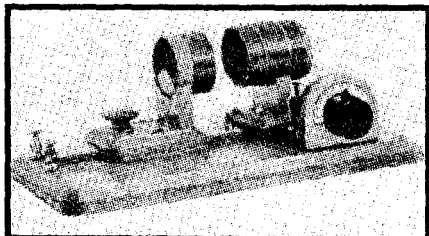
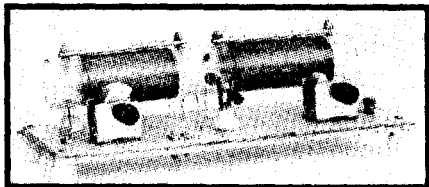


### RADIOS THAT WORK FOR FREE

by K.E. Edwards

Build yourself a crystal set! You'll be shown everything you need to know - from materials to tools to techniques. Edwards will show you how to build "hot-rod" crystal sets with fancy features that can outperform the old oatmeal box versions, but are still simple. If you've never built anything electronic at any time but would like to try, this is a great place to start. This book has become a classic in its field, and it gives me a good feeling. I think you'll like it, too. 5 1/2 x 8 1/2 paperback 138 pages — well illustrated

Cat. No. 314 \$7.95



### WIRELESS EXPERIMENTER'S MANUAL

by Elmer E. Bucher  
reprinted by Lindsay Publications

In 1920 amateur radio was hot! It was the cutting edge of technology! Everyone wanted in on it, and Bucher showed readers how to build equipment and operate it. You can relive those days!

You get chapters on advice to the amateur, formation of a radio club, principles of the radio transmitter, construction of transmitters, construction of aerials and masts, tuners and detectors, vacuum tube detector and amplifier, undamped wave receivers, undamped wave transmitters, cabinet receivers and accessories, design of wave-meters, closed coil aerials, Weagant static eliminator, and long distance relays by radio.

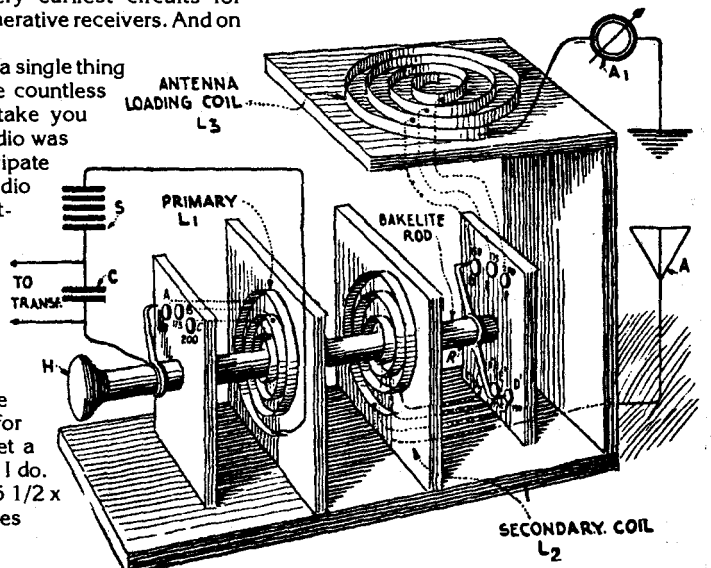
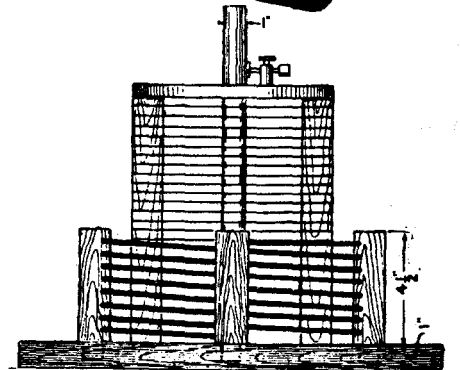
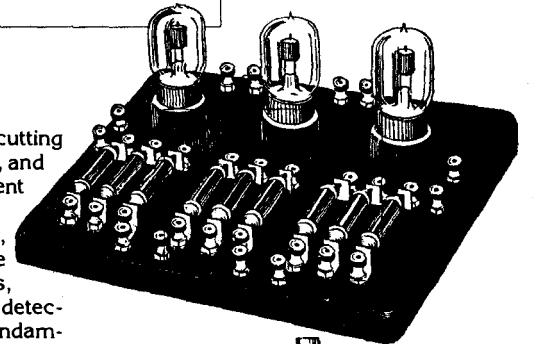
You get everything from early spark gap transmitters which were related to Tesla coils to continuous wave transmitters and radio telephone transmitters. You get great construction how-to on winding power transformers, coil winding machines, oscillation transformers, high-voltage condensers, rotary spark gaps, making a key, building receivers with variometers, and homemade crystal detectors.

But this is also extremely "modern" (for 1920). You'll learn about vacuum tubes and their use as replacements for crystals and as amplifiers. You'll even get one of the very earliest circuits for Armstrong's original regenerative receivers. And on and on it goes.

Even if you never build a single thing from out of this book, the countless incredible drawings will take you back to the days when radio was new. You can almost participate in the excitement of new radio discoveries just as short-waves were about to be explored for the first time.

Great book! Fun reading. Incredibly good if you want to build crystal sets, Tesla coils, transformers, repair old radios, or build reproductions of antique equipment. Fun reading for the old-time radio fan. Get a copy. I think you'll like it. I do. (Is it obvious? Or what?) 5 1/2 x 8 1/2 paperback 350 pages

Cat. no. 20854  
\$13.95





# NEON SIGNS

*Great How-To on Glass Blowing, Vacuum Systems, High Voltage and more from 1935!*

## NEON SIGNS

by Miller & Fink

reprinted by Lindsay Publications

Sure. Equipment, techniques, and sign design have changed since this book first appeared in 1935, but not all that much.

Even if you're not interested in making neon signs, you'll find loads of useful information on rare gases, glass blowing, and vacuum systems that could be useful in experimental physics, high voltage, or even in building your own experimental vacuum tubes!

Chapters include the luminous tube, materials, electrical equipment, types of signs, designing the sign, glass bending, pumping systems, bombarding, filling, testing, aging, installation equipment, special applications, tricks of the trade and more!

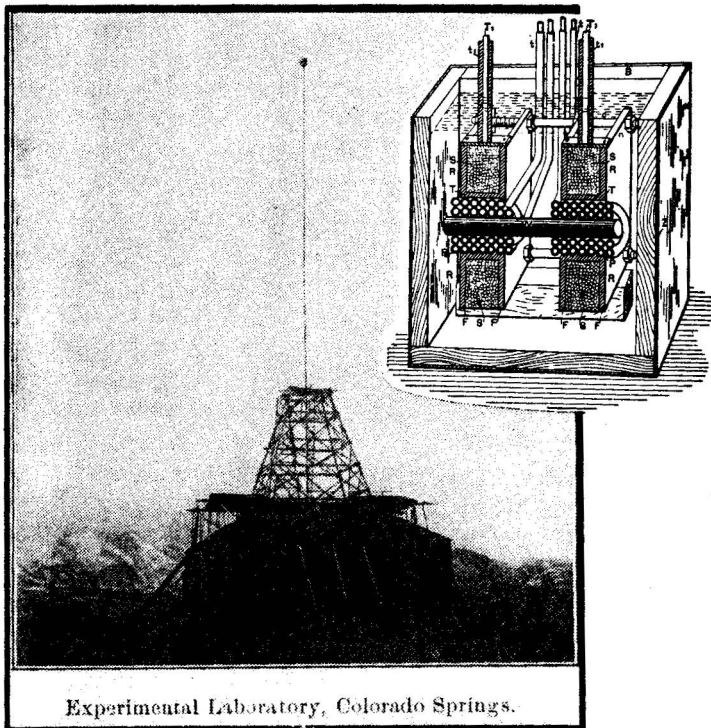
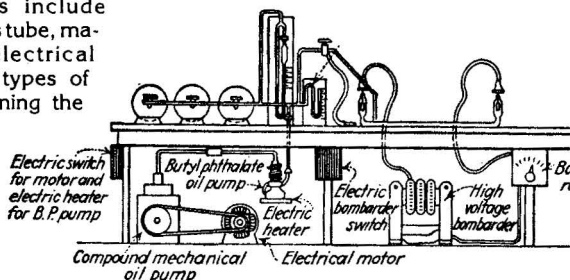
This is a quality straight-to-the-point book loaded with diagrams and photographs that you won't find just anywhere. It might be fun to make bizarre neon signs, repair "antique" signs, or just get into the trade. But even if that's not your goal, you'll find loads of unusual, interesting information. Consider this carefully. It certainly is NOT run of the mill. Order a copy. 5 1/2 x 8 1/2 paperback 288 pages

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Because of the enormous expense of printing and mailing catalogs, we are forced to mail catalogs to only those people who are interested in receiving them. The best and only sure-fire way you can be assured of getting future catalogs is to order books. And that make sense. If you can't find at least ONE book in this catalog that interests you enough to order, then there's little reason to continue sending catalogs. So order today and we'll send catalogs!



Experimental Laboratory, Colorado Springs.

Tesla's Experiments  
with Alternate Currents of

## HIGH POTENTIAL HIGH FREQUENCY

*Power transmission without wires: the London Lecture plus a 1904 magazine article on the Colorado Springs experiments! Rare book!*

EXPERIMENTS WITH  
ALTERNATE CURRENTS  
of High Potential & High Frequency

by Nikola Tesla

"A lecture delivered before the institution of electrical engineers, London, by Nikola Tesla with an appendix by the same author on the transmission of electric energy without wire, reviewing his recent work, and presenting illustrations from the photographs never before published".

Quite a title! Quite a book! There's so much written and published about Tesla (and too much of it is pure garbage), that it is refreshing to have the inventor himself explain his experiments, theories, and plans. It's all here, every page from the original 1904 book — complete with unusual illustrations showing disruptive discharge coils, improved discharger and magnet, luminous discs, single wire and no wire motor, unusual electric lights for use with the high-frequency AC that is generated by the Tesla coil, and much more.

The last fourteen pages of the book is a reprint of Tesla's article from the March 5, 1904 issue of "Electrical World and Engineer" complete with photographs of the experimental apparatus at Colorado Springs and Long Island built to test the transmission of electrical power without wires.

Anyone who studies Tesla, builds his coils, or wants to perfect the inventions that Tesla didn't have time to finish should have a copy of this book. The writings of Tesla himself should be the cornerstone of any Tesla library, and here is your chance to get your own copy of this now-rare book. Interesting reading. Historically important. Get a copy.

5 1/2 x 8 1/2 paperback 170 pages.

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# Introduction to MAGNETISM

Not too  
simple

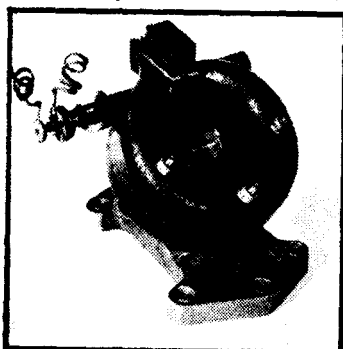
Not too  
complex

Just  
right!

**MAGNETISM** — An  
Introductory Survey  
by E. W. Lee

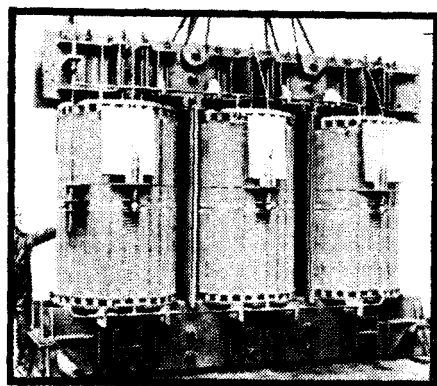
The back cover of this book  
explains it all very well...

"The lodestone was known to the ancient Greeks; the Chinese knew of the compass a thousand years ago; in the 16th century Gilbert described magnetic poles. Professor Lee takes us through the early experiments to the first modern accomplishments of Oersted,



Ampere and Faraday. We then learn the principles behind electric motors, dynamos, transformers, permanent magnets, synchrotrons, solenoids, memory banks in computers, betatrons, magnetic supercooling, and other modern applications....

"The author shows us how magnetism 'works,' with reference to such concepts and principles as lines of force; ferromagnetism; the atomic theory of matter in relation to electromagnetic properties; paramagnetism and diamagnetism; quantitative measurement of magnetic force; domains and



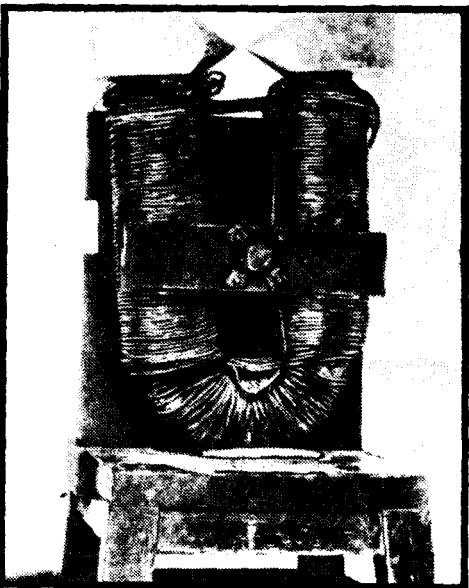
domain boundaries; high-permeability alloys, their theoretical basis and uses; magnetic matrices used as computer-age storage devices; ferromagnetism and antiferromagnetism; the use of magnetism in modern scientific research; and problems of the earth's magnetism, including its meaning to Wegener theory of continental drift and solar phenomena."

You get 60 diagrams and sketches and more than 32 pages of photographs. If you want to explore the theory, you can study the mathematics that explains magnetism.

This is one heck of a lot of book for the money. And it's must reading for basement engineers, experimenters, even the guy who's trying to build a magnetic motor or perpetual motion machine. Great background information. Order a copy. 5 1/2 x 8 1/2 paperback 281 pages

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# Classic High Voltage Text! HIGH FREQUENCY APPARATUS

## HIGH FREQUENCY APPARATUS

by Thomas Stanley Curtis  
reprinted by Lindsay Publications

By 1916 so much interest in induction, Tesla and Oudin coils had been generated by *Electrician & Mechanic*, *Popular Electricity* and *Modern Mechanics*, and *The World's Advances* magazines, that Curtis knew his book and high voltage equipment he manufactured would be a hit.

Because of their very nature, magazines could publish only brief articles on these lightning bolt generators. Curtis went the other extreme, and packed "Apparatus" with as much detailed information as he could find. Then he added suggestions for experiments and dozens of illustrations. The result is now a

classic book, and original copies are so coveted that they're difficult to find.

You get wall-to-wall how-to on coil construction. Tips on calculating windings, winding coils, making transformers, interrupters and spark gaps, and even the power transformers that drive the spark gap.

If you want to die young, you can build an X-ray apparatus. Use it long enough, and you and everyone in your apartment building will glow in the dark!

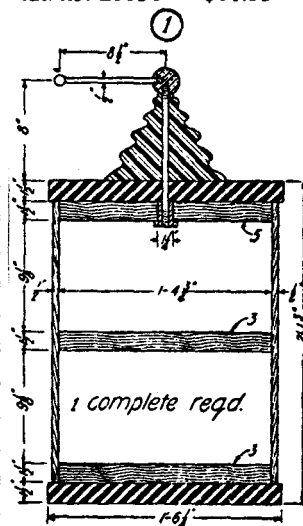
Build a grid and see for yourself if high frequency current really does affect plant growth. Build yourself a large coil that produces 50" lightning bolts, give lectures, and make people think you are a genuine made scientist. (Bring your mother-in-law along. They might mistake her for Frankenstein....)

Great book. And absolutely

**MUST HAVE** book for the Tesla coil experimenters. Get a copy for your high-voltage library. Quality. Order a copy today. 5 1/2 x 8 1/2 paper 247 pages well illustrated  
Cat. no. 20030 \$11.95

## CONTENTS

- 1 Alternating Current at Low and High Frequencies
- 2 How the High Frequency Current is Produced
- 3 The High Potential Transformer or Induction Coil
- 4 The Oscillation Transformer
- 5 The Spark Gap
- 6 Oscillation Transformers
- 7 Induction Coil Outfits Operated on Battery Current
- 8 Kicking Coil Apparatus
- 9 One-Half Killowatt Transformer Outfit
- 10 Quenched Gap Apparatus
- 11 Physicians' Portable Apparatus
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- 13 Hot Wire Meter Construction
- 14 Notes for the Beginner in Electro-Therapeutics
- 15 Plant Culture with High Tension Current
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- 17 A Foreword on the Construction of Electrical Apparatus for the Stage
- 18 Construction of Large High Frequency Apparatus
- 19 Large Tesla and Oudin Coils for the Stage
- 20 Construction of a Welding Transformer
- 21 Hints for the Electrical Entertainer
- Appendix Parts and Materials - How Much They Cost and Where to Get Them





# TESLA COIL DESIGN

program for IBM compatible computers!

- Highly Accurate
- Tested out to 40" arcs!
- Easy to Use
- Easy to Learn
- Reasonably Priced

## THE TESLA COIL DESIGNER

by Walt Noon

"The Tesla Coil Designer has been written specifically to allow anyone with even the simplest knowledge of electronics to be able to design their own Tesla coil..."

The program has been written so that each component... can be individually calculated..."

Fire up your PC and design a coil. Walt Noon, the mad scientist, will provide you with a quality design program that offers more sophisticated design features than programs offered at twice the price.

You get a 5 1/4 floppy and a small booklet which walks you through the design of a 200,000 volt Tesla coil. The program is not copy protected, and can be copied to your hard disk for execution. You'll need at least CGA graphics, although Walt includes a Hercules emulation program if you don't.

Just realize that garbage in gives garbage out. You can make the program design a coil that will deliver 250 million volts if you want, but it won't work if you build it. You've got to use the program to design coils of "reasonable" size and power. There are physical limits that no computer program is going to know about. Coils giving 40" arcs have

been easily designed and successfully built.

The price is right for this time saver. If you build coils, consider this carefully. one 5 1/4 floppy and one 5 1/2 x 8 1/2 booklet

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## What Coil Builders are Saying...

Dear Mr. Noon:

Thank you very much for the Tesla Coil Designer program. I found it very easy to learn and A HUGE TIME SAVER! The hours I used to spend calculating design parameters are now spent comparing various design limits. I have found your Designer to be extremely accurate in predicting coil frequency and discharge in the coils I have built since purchasing your program.... I have been very pleased with the way the program operates...

Richard T Quick, Glendale MO

Walt:

I purchased your IBM PC Tesla Coil software back in May, and I like the software very much...

Kim Kochersperger, Kokomo IN

# NIKOLA TESLA

On His Work With Alternating Currents and Their Application to Wireless Telegraphy, Telephony, and Transmission of Power

Nikola Tesla on His Work - an Extended Interview  
edited by Leland I. Anderson

From the preface: "The surfacing of the transcript for this pre-hearing interview with Nikola Tesla by his legal counsel in 1916 resulted from an intensive search in archives of legal firms, some now defunct and other later acquired by contemporary interests. The interview was precipitated by numerous pending court cases as fledgling radio industry entered a period of fierce competition. Tesla's counsel believed the interview necessary not only in order to prepare for the pressing of his own claims against the Marconi Company, but also to protect his own patent interests when called to give expert-witness testimony in the upcoming litigation foray pitting a plethora of new communication companies and their captive radio pioneers as adversaries.

The text of this interview was, of course, never intended for publication. Counsel, concerned primarily with protection of Tesla's patent interests, ask questions almost exclusively relating to the priority of his patents and their application..."

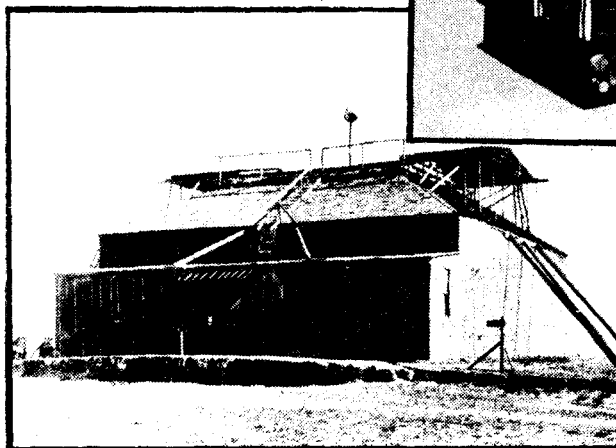
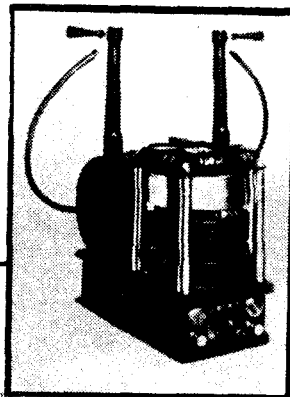
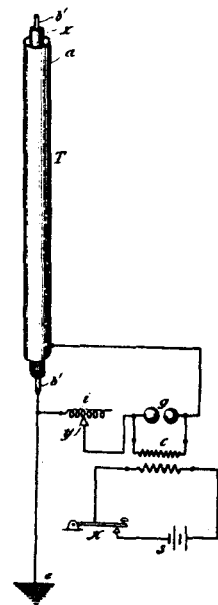
Most of the photographs accompanying this interview are in good condition, but those of schematics and mechanical drawings have suffered some decay with time..."

Chapters include high frequency alternators, experiments with wireless telegraphy and telephony, mechanical and electrical oscillations, damped waves, continuous waves, Colorado experiments, theory and technique of energy transmission, Long Island plant, arrangements for receiving, clarification of selected remarks, and even a description of the Long Island plant and inventory of the installation as reported in 1922 foreclosure appeal proceedings.

This is unusual, and apparently newly discovered, information about Tesla and his inventions in his own works. This is an expensive book, but well done and quite interesting. The Tesla buff will consider it a necessity. You get countless drawings and photos of Tesla coils, dynamos, condensers, his experimental plants and more. A lot of the illustrations you've seen before, but you'll no doubt discover new ones. Excellent book worth having. It's Tesla on Tesla. A cut above the rest. Get a copy. 8 1/2 x 11 paper-back 237 pages

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\$40.00



**Inventions, Researches & Writings of  
NIKOLA TESLA**

by Thomas Commerford Martin  
reprinted by Lindsay Publications Inc

The greatest world's fair ever constructed was underway in Chicago in 1893. More electricity and more electric lights were used in the fair than in the entire city of Chicago. It was the electric age, and Edison was doing with commercial battle with Westinghouse and its star, Nikola Tesla.

In 1893, this volume, a comprehensive collection of Tesla's work to that point, was published. And although it is now quite rare, you can have a high quality reprint for a small fraction of what cost us to obtain an original copy.

Most people think of lightning generators when they think of Tesla, but that's a very narrow perspective. People should think of alternating current. Tesla created the power system used throughout the world today — one that operates at 50 and 60 cycles per second.

Tesla experimented with other frequencies, iron and air core transformers, as well as motors and generators. Tesla didn't just one day decide he was going to build his famous lightning bolt generator. It was but another step in a series of experiments that had begun years before. Here you get a complete record of this research up to 1893.

It's all here — the AC experiments and inventions that lead Tesla to experiment with ever higher voltages and frequencies, the neon tubes and fluorescent lights, unusual high frequency alternators and even magnet motors.

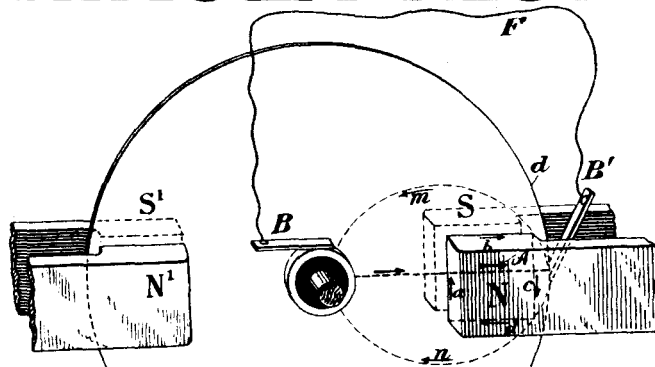
If you want to carry on Tesla's unusual research, you must walk in his footsteps. You must do your homework. Here in one volume is the early work that will help you get your mind in sync with his and perhaps suggest what he was thinking at the time, and give you ideas of where to take his experiments.

Every Tesla fan, every high voltage experimenter, and every electrical engineer should have a copy of this classic book. Just as much as Edison, Tesla created the world in which we live today. Now you can study the results of his research, attend his special exhibitions, and devour his lectures, with this single volume. Order a copy today! 5 1/2 x 8 1/2 paperback 496 pages  
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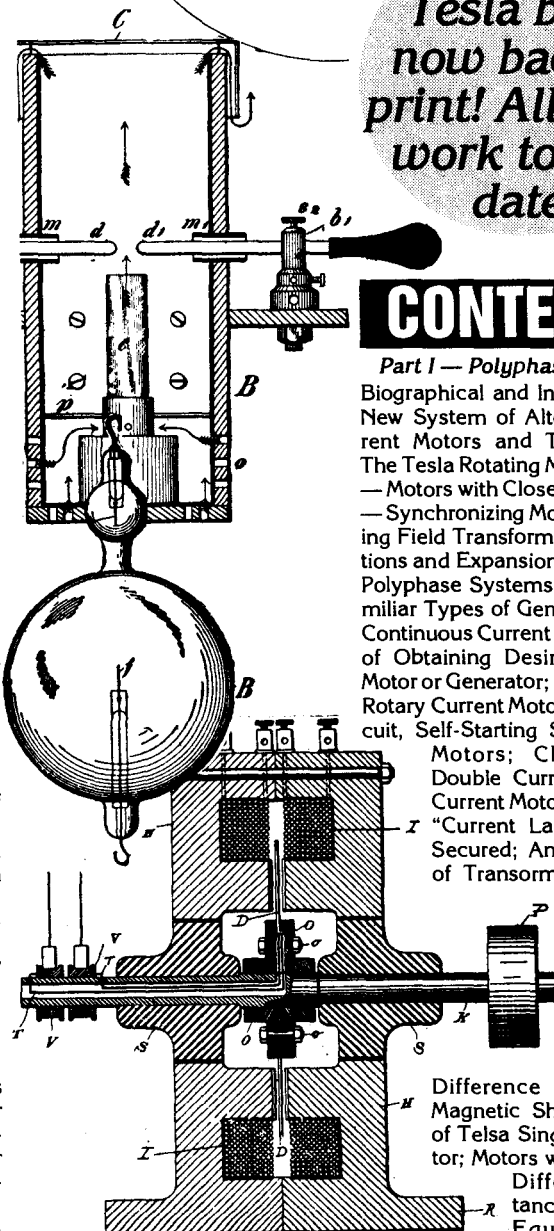
**SPECIAL HARDCOVER EDITION**

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# Inventions, Researches & Writings of NIKOLA TESLA



**Rare 1893  
Tesla book  
now back in  
print! All Tesla  
work to that  
date!**



## CONTENTS

**Part I — Polyphase Currents**

Biographical and Introductory; A New System of Alternating Current Motors and Transformers; The Tesla Rotating Magnetic Field — Motors with Closed Conductors — Synchronizing Motors — Rotating Field Transformers; Modifications and Expansions of the Tesla Polyphase Systems; Utilizing Familiar Types of Generators of the Continuous Current Type; Method of Obtaining Desired Speed of Motor or Generator; Regulating for Rotary Current Motors; Single Circuit, Self-Starting Synchronizing Motors; Change from Double Current to Single Current Motors; Motor with "Current Lag" Artificially Secured; Another Method of Transformation from a

Torque to A Synchronizing Motor; "Magnetic Lag" Motor; Method of Obtaining

Difference of Phase by Magnetic Shielding; Type of Tesla Single-Phase Motor; Motors with Circuits of Different Resistance; Motor with Equal Magnetic

**Incredible  
inventions! AC  
Power, High  
Voltage, High  
Frequency, Oil  
Condensers, even  
magnet motors!**

Energies in Field and Armature; Motors with Coinciding Maxima of Magnetic Effect in Armature and Field; Motor Based on the Difference of Phase in the Magnetization of the Inner and Outer Parts of an Iron Core; Another Type of Tesla Induction Motor; Combinations of Synchronizing Motor and Torque Motor; Motor with a Condenser in the Armature Circuit; Motor with Condenser in One of the Field Circuits; Tesla Polyphase Transformer with Magnetic Shield Between Coils of Primary and Secondary.

**Part II — Tesla Effects with  
High Frequency  
and High Potential Currents**

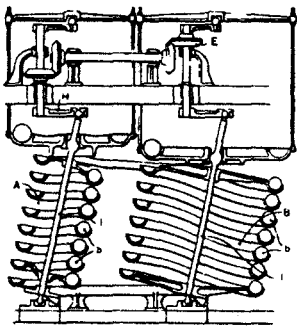
Introductory — The Scope of the Tesla Lectures; The New York Lecture. Experiments with Alternate Currents of Very High Frequency, and Their Application to Methods of Artificial Illumination, May 20, 1891; The London Lecture. Experiments with Alternate Currents of High Potential and High Frequency, February 3, 1892; The Philadelphia and St. Louis Lecture. On Light and Other High Frequency Phenomena, February and March, 1893; Tesla Alternating Current Generators for High Frequency; Alternate Current Electrostatic Induction Apparatus; "Massage" with Currents of High Frequency; Electric Discharge in Vacuum Tubes.

**Part III — Miscellaneous  
Inventions and Writings**

Method of Obtaining Direct from Alternating Currents; Condensers with Plates in Oil; Electrolytic Registering Meter; Thermo-Magnetic Motors and Pyro-Magnetic Generators; Anti-Sparking Dynamo Brush and Commutator; Auxiliary Brush Regulation of Direct Current Dynamos; Improvement in Dynamo and Motor Construction; Tesla Direct Current Arc Lighting System; Improvement in Unipolar Generators.

**Part IV — Appendix on Early  
Phase Motors  
and the Tesla Oscillators**

Mr. Tesla's Personal Exhibit at the World's Fair; The Tesla Mechanical and Electrical Oscillators.



## THE PERPETUAL MOTION MYSTERY

by R. A. Ford

Perpetual motion. Some people laugh at it. Others take it very seriously. Here's a serious look at these unusual systems.

First, you get a reprint of the small and now-rare "Perpetual Motion Handbook Through Entropy Reversal" published in 1967 by I. R. Barrows. Then, you get his first (and last) four "Perpetual Motion Journals" published about the same time. Each is small but filled

with letters patents, ideas, illustrations, and thought-provoking suggestions.

The author jumps into a discussion of why perpetual motion might be possible, pointing out unusual theories from the past, and pointing out possible defects in current theories.

Covered are kinetic gravitational theories of the 18th century, DesCarte's Vortex Theory, LeSage's Impact Theory of Gravity, and Brush's Wave Theory. Attempts at experimental confirmation of these theories are then provided.

## PERPETUAL MOTION MYSTERY

Natural gravitational anomalies such as solar eclipse, bulging river surfaces, bore at sea, unusual rock movements, slowly falling hail are revealed. You'll learn about Robert Cook's inertial propulsion device and its relation to Newton's Law.

The last large section covers the Orffyreus wheel built in Germany centuries ago. The author believes it might have been the only real perpetual motion machine yet invented, the secret of which was lost. You'll learn about the inventor's life, his education, his wheels, his successes and failures, the tests, and more.

Last, the author, based on the material presented in earlier chapters suggests how a perpetual motion machine might be built.

You get a collection of strange, rarely seen stories and phenomena that might hold the key to perpetual motion, if, indeed, such a machine can be built.

This is not a construction manual, nor is it extremely complex. It's a notebook gathered over the years, one that should be interesting to believers and non-believers.

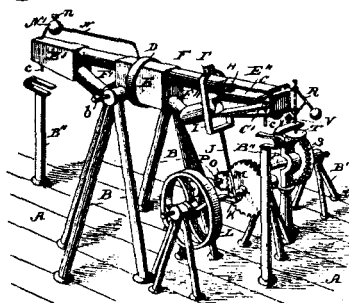
Consider it. You won't find anything quite like it on the market. Different. Unusual. Interesting reading. Get a copy.

5 1/2 x 8 1/2 paperback 196 pages

Cat. no. 4538

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## 50 Machines



## FIFTY PERPETUAL MOTION MECHANISMS

by Fred Dieterich

reprinted by Lindsay Publications

The author was a patent attorney who wrote a book in 1899 entitled "The Inventors Universal Educator" covering the process of securing a patent. One short section of his book covers perpetual motion inventions which are unpatentable. Dieterich, who was outraged by claims of perpetual motion, presents drawings of 50 different mechanisms. No doubt, you've

already seen a number of these, but others are unique, and all are interesting.

You'll see the Marquis of Worcester wheel, the Horace Wickham machine, the 1868 device of Dr. Drasch of Austria, an electric device, the self-moving railway, the Orffyreus 1720 wheel, a complicated water screw, and others.

If you're into PM, you'll want to add this to your collection. Maybe you're trying to build a machine and want to avoid previous failures. Or you're a skeptic and want a good laugh. Whatever, the material is interesting and the price is low. Get a copy. You'll like it. 8 1/2 x 5 1/2 booklet 22 pages

Cat. no. 898

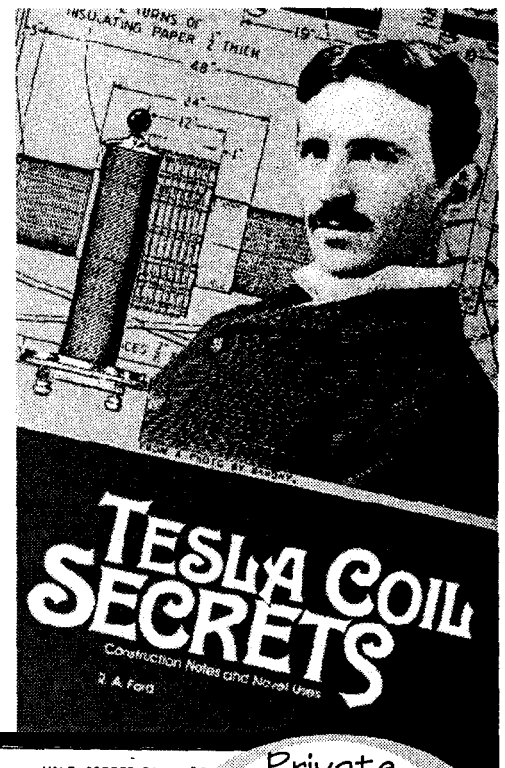
\$3.75

## TESLA COIL SECRETS

by R. A. Ford

Be the first on your block to blast your neighborhood with high voltage! Shock the socks off your friends and relatives! Zap those pesky cats digging in the garbage can! Make people think you really are building a Frankenstein monster in your basement!

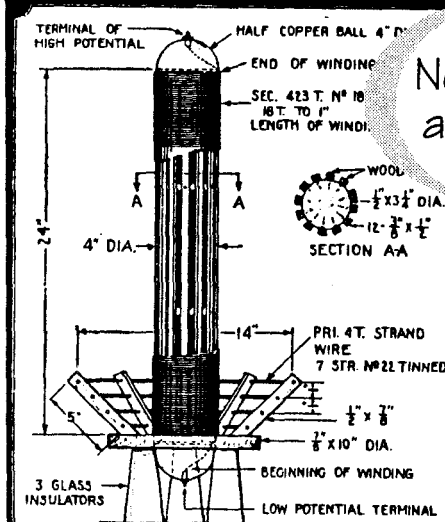
A Tesla coil is a resonant, air-core, high-voltage transformer developed by Nikola Tesla at the turn of the century to generate lightning bolts and to investigate the wireless transmission of electrical power.



## TESLA COIL SECRETS

Construction Notes and Novel Uses  
R. A. Ford

Private  
Notebook of  
a Tesla Coil  
Builder



get info on rotary spark gaps, anti-kickback devices, Leyden jar capacitor construction, conical Tesla coils, Oudin coils, and suggestions on research into wireless power transmission, plant growth stimulation, medical uses, and more.

Many of the re-

printed articles are fuzzy and a few hard to read. Most have been enlarged to bring out the construction details, and have been reprinted in their entirety. The difficult searching has been done. You can spend your time building and experimenting.

Be warned! You'll be working with high-voltage high-frequency devices from another era. Tesla coils can be very dangerous. But maybe you can be the one to rediscover the secrets Tesla didn't have time to pursue or reveal.

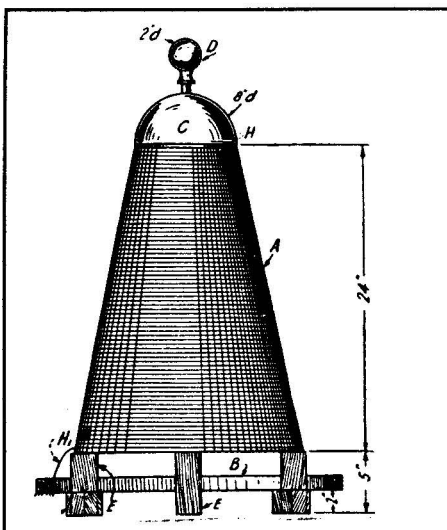
Rare info! Too bad the book isn't ten times bigger. Get a copy for the reference library if for no other reason. Interesting reading. Recommended!

5 1/2 x 8 1/2 paperback 74 pages

Cat. no. 4317

\$6.95





## CONTENTS

Collin's Radiophone Arc  
Detector, Spark Gap, Hints & Tips  
Wrinkles, Recipes, Formulas  
Water Wheel Drives for Private Lighting Plants  
Construction & Use of the Gold-Leaf Electro-  
scope  
Marvels of Modern Physics (Electricity &  
Medicine)  
Vacuum Detector & How It Works  
A Small Static Machine  
Making Selenium Cells  
Giant 48" Spark Coil  
Rotary Spark Gaps  
High Frequency Alternator for Testing Crystal  
Detectors  
Chromic Acid Battery  
Construction of Wheatstone Bridge  
Lightning Made to Order  
How & Why of Radio Apparatus - Induction Coil  
High Frequency Resonator for Spark Coils,  
Making Chlorine  
Transmitting Your Photo Over a Wire  
Armstrong Regenerative Audio System  
An Adjustable Fixed Condenser, Electric  
Thermometer  
Reginald A Fessenden  
Radio Detector Development  
Gas Batteries  
The Measurement of Capacity  
Dr. Nikola Tesla & His Achievements  
How & Why of Radio Apparatus - Condensers  
Construction of a 6-Volt, 25 AH Storage Battery  
Bottle Tesla Coil, Experimental Arc, Hints &  
Tips  
Electricity & Life  
The Quenched Spark Gap  
Build a 500 Watt DC Dynamo  
Double Capacity Rotary Variable Condenser  
Construction of High-Frequency Apparatus for  
Medical & Lecture Use  
Use of High-Frequency Currents in Medical  
Work  
How & Why of Radio Apparatus - Spark Gaps  
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Amateur and Experimental Radio Research  
Tesla's Views on Electricity & War  
Suggestions for Radio Research Work  
Converting a Tuning Coil into a Cabinet Tuner  
A Hand-Feed Arc for the Experimenter  
X-Ray Tubes for High Frequency Coils  
Selenium Cell Design & Construction  
Home-Made Arc Search Light  
A Simplified Variable Condenser  
Constructing a 1/4 KW High Frequency Oudin  
Coil  
Construction of a Laboratory Vacuum Pump  
Regarding Tesla & Oudin Coils  
How I Telegraph Pictures  
How to Use High Frequency Currents in the  
Treatment of Disease

The Very  
Best from  
the

# ELECTRICAL EXPERIMENTER

The Very Best From  
THE ELECTRICAL  
EXPERIMENTER 1916-1917

anthology by  
Lindsay Publications Inc

You can go back to read the very best articles from one of the earliest hobbyist electronics magazines published. Gernsback's Electrical Experimenter was filled with basic information, ads for early equipment, and most importantly how-to projects designed to be built from the most primitive materials.

Readers learned how to build unusual crystal set receivers with unusual detectors, high power wireless sets, and all the equipment that went into their construction. Today, you buy electronic equipment, put batteries in it, and turn it on. Back then you built your batteries!

You'll find how-to articles on high voltage Tesla coils, induction coils, spark gap construction, batteries, detectors, water power systems, selenium cells for experimenting with primitive television systems, and more.

You get theoretical papers by MD's describing how new electrical equipment would revolutionize medicine. You get history on Fessenden and Tesla. You'll learn how to measure capacity, and much more.

You get the very best articles from this two year span, and by best we mean plans and information that is very difficult to find today. Many articles that cover the basics of electricity were omitted because you can find comparable material in modern magazines. Some plans were omitted because they were not unusual enough, such as motor and dynamo plans. You can find such plans in many old books.

What you will find is solid, interesting and useful information. Be careful,

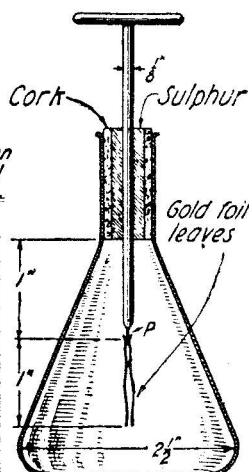
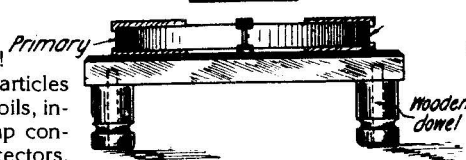
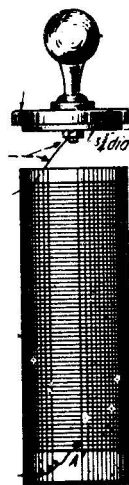
## 1916-1917

though! Some of this info is downright dangerous. You can get yourself electrocuted. You can give you and your neighbors cancer if you build and operate an X-Ray machine. Be very careful.

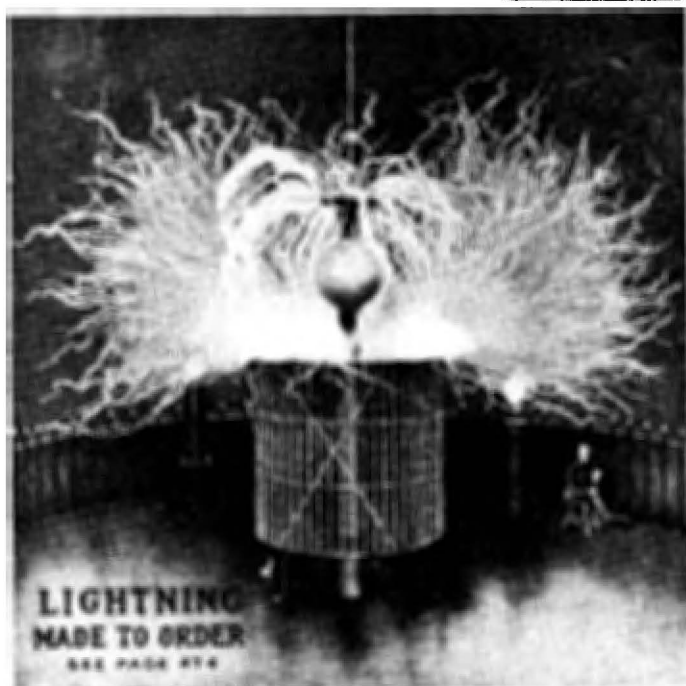
This is a great collection of rare material — something you should have in your reference library. Wall-to-wall illustrations! Interesting reading. Order a copy! 8 1/2 x 11 paperback 108 pages

Cat. no. 20137

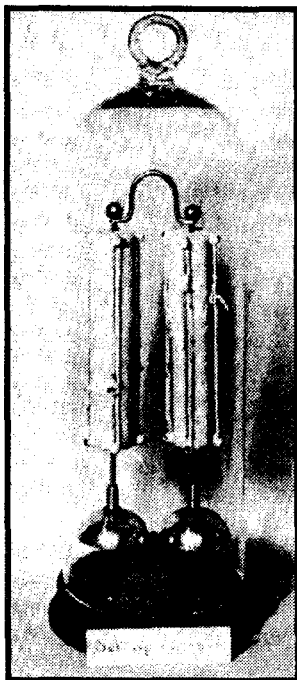
\$9.95



You should know that most of the photographs in this book are not of the best quality. Poor originals, yellowed paper, oversized pages have combined to make the photographs "muddy". The drawings are very sharp, and most type is quite readable, but the photos leave something to be desired. All we can say is that we did the best job we could. See what you think.



# Perpetual Motion History



## PERPETUAL MOTION The History of an Obsession by Arthur Ord-Hume

People for centuries have attempted to build a machine that will produce more energy than it consumes. And they've all failed.

If you think you've invented a new type of perpetual motion machine, you had better read this book. Chances are, it has already been attempted.

For the rest of us, this book is interesting reading. There are some machines, that don't actually produce energy, but they run seemingly forever on a small amount of energy, like Singer's perpetual chime that was set up in 1840 and is still operating!

Learn about medieval machines, self-moving wheels, lodestones, electromagnetism, steam, capillary attraction, spongewheels, Cox's machine, the Redheffer device, the Keely motor, odd ideas about vaporization and liquification, the barring of perpetual motion devices from the patent office (although the magnet motor sneaked in), rolling ball clocks, and

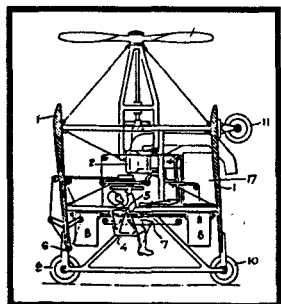
more. You get lots of illustrations, and an excellent list of references for further reading.

Interesting book! Well written and researched. Excellently done. If nothing else, put one in your reference library. It's not all that expensive. 5 1/2 x 8 1/2 paperback 235 pages.

Cat. no. 510

\$6.95

## 1988 TESLA SYMPOSIUM



## PROCEEDINGS OF THE 1988 International Tesla Symposium

edited by S. R. Elswick

Every year in Colorado, Tesla fans gather for a symposium to swap information. Here, in one convenient volume, are the papers presented at the 1988 meeting.

Chapters are collections of papers on a particular topic: Tesla history, Tesla coils, geophysical effects, electromagnetics, energy research, and gravitics. You get

the Great AC/DC War, Tesla's Contributions to Electrotherapy, History of Laser Particle Beam Weapons, Tesla Coil - An RF Power Processing Tutorial for Engineers, Computer Simulation & Experimental Verification of Tesla High Voltage Machines, Earth-Ionosphere Cavity Magnetic Field Spectra in the 3-30 hz Band, Demonstrating A Zero-point Energy Coherence, Phenomenon of Electric Charge Generation by Space Rotation, Studies on Rotation Leading to the "N" Machine, Recent Developments of Levitation, Maxwell's Lost Unified Field Theory, and ten more! Although not heavily illustrated, you do get a number of drawings, circuits, charts, and there is plenty of math in places.

This is an unusual book, to say the least. It is a must-have for Tesla fanatics, anti-gravity people, perpetual motion people, and the fringe-science crowd in the general. I can't tell where the hard science ends and the speculation and alternate science theory sets in. So you know it's unusual! It's expensive, but worth having. Consider it carefully. 8 1/2 x 11 hardcover about 320 pages

Cat. no. 385

\$49.95

## PROCEEDINGS OF THE 1990 INTERNATIONAL TESLA SYMPOSIUM

edited by Steven Elswick

Here's another collection of practical, experimental, and just plain loonie ideas related but limited to Tesla. Some of this is fascinating reading, some a rehash of material available elsewhere, and the raving

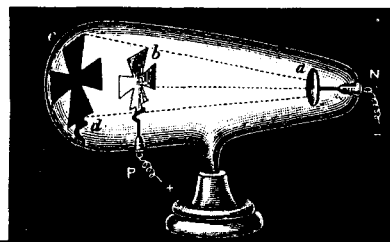
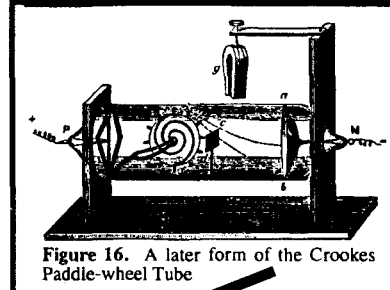
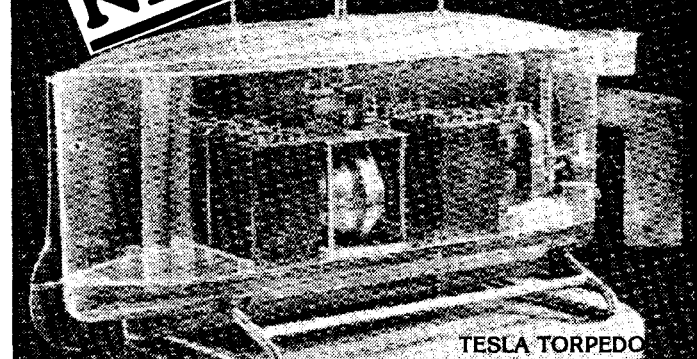


Figure 16. A later form of the Crookes Paddle-wheel Tube



**NEW!**



TESLA TORPEDO

## Tesla Symposium 1990

of some people who claim that scientists are all wrong, and that they have the knowledge that will totally change the world. In other words, this is a three ring circus.

Included are the Tesla Museum, the AC/DC war, a great paper by Jim Hardesty on X-Rays and Electron Beams (see the video in this catalog), 100 Years of Cavity Resonator Problems, Rediscovery of Tesla's RF Techniques, Computer Aided Design of Tesla Coils, Active Antenna for ELF Magnetic Fields, Tesla Technology and Radioisotopic Energy Generation, Current Tesla Turbine Technology, Non-Hertzian Scalar Energy and EM Energy: The Biological Connection, Nikola Tesla: Father of Bioelectronics, and the "good stuff": Tesla Wave Physics for a Free Energy Universe, Engineering Intro to Zero Point Energy, Tapping the Zero-Point Energy and Scalar Current, Nonlinear Dynamics, Nonconventional Energy and Propulsion Methods, High Voltage Concentric Field Generator Design, Energy Phenomenon, Experiments in Synchronicity, and the Gary Magnetic Effect.

You get a well illustrated volume of interesting reading. It's expensive, but the material is hard to find and is the only published documentation of the 1990 Symposium held in Colorado. If Tesla and bizarre science is your thing, then this is definitely for you. Get a copy. 8 1/2 x 11 hardcover over 350 pages

Cat. no. 768

\$49.95

# WHO WAS NIKOLA TESLA?



## TESLA: MAN OUT OF TIME

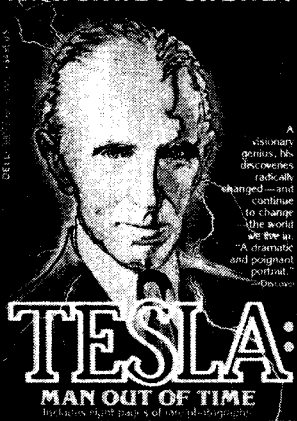
by Margaret Cheney

"Flamboyant, eccentric, almost supernaturally gifted, had he been born today he would still be ahead of his time. Called a madman by some, a genius by others, and an enigma by nearly everyone, Nikola Tesla was perhaps the greatest inventor the world has ever known..."

"It was Tesla who harnessed the alternating electrical current that we use today... Tesla who actually invented radio... Tesla who invented fluorescent lighting and the incredible bladeless turbine. He introduced us to the fundamentals of robotics and computer and missile science, which continued to create and transform the future..."

There are many books about Tesla, some of them are garbage written by groupies who worship Tesla as a god. Here's a great factual biography that has gotten great reviews — the story of a wizard who was Edison's enemy, Mark Twain's friend, and J. P. Morgan's client. This is the real story. Excellent book at a reasonable price. Order a copy. 310 pages "mass" paperback a few photos Cat. no. 717 \$5.95

MARGARET CHENEY



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"Lindsay, you're mean, cruel, disgusting, and despicable. I had just about finished ordering everything that interested me, you pull the rabbit out of the hat and produced a whole crop of interesting new titles to help the ruin of Australia's balance of payments."

Mike Chambers, Wollongong NSW Australia

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Aaron Banerjee  
Carbondale IL

## ELECTRICITY AT HIGH PRESSURES AND FREQUENCIES

by Henry L. Transtrom  
reprinted by  
Lindsay Publications

This off beat book on high voltage appeared in 1913 and was revised again for publication in 1921. Its chapters have no names. There appear to be 139 illustrations.

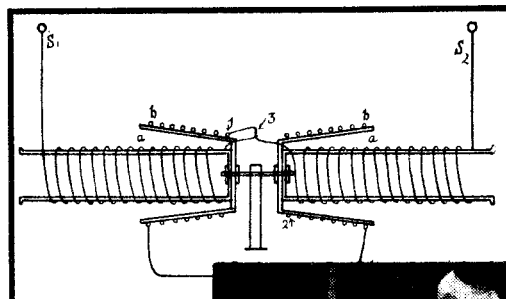
The entire first part of the book covers electrical theory on electricity, how it is produced by generators, ideas of induction, ampere-turns, frequency and the phase shift that occurs through reactive elements and much more. This isn't heavy stuff — practical theory that builders can use, more or less translations of "heavy" engineering theory. This is great material for the experimenter in induction coils, Tesla coils, Oudin coils, and other lightning bolt generators.

You won't find much how-to, but you will find details about existing equipment, how it works, simple calculations on performance, and some remarkable photographs of experiments that can be performed with a lightning bolt generator.

Chapter 13 on page 165 talks about the fact that Tesla, Fessenden and others have not been able to generate frequencies over 100,000 Hertz (cycles per second). Then they show you a Fessenden alternator driven by a 10 hp DC motor through gears that revolves at 20,000 rpm that kicks out over 2,000 watts of high-frequency high voltage!

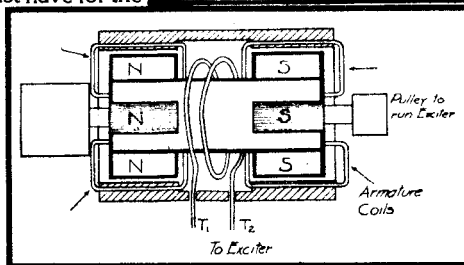
You'll then read about capacitive machines. You'll see a device that develops 15,000 volts between two ends of 25 feet of No. 4 aluminum wire! Another photo shows a 10 volt 5 watt Mazda lamp is lit to full brightness although apparently short circuited by 6 inches of No. 00 copper wire! It shouldn't work, but it does. You'll see a high-frequency transformer that throws heavy 60" sparks between its terminals. Other photos show unusual high voltage experiments. The last 20% of this book is worth the price of the entire book!

This is another must have for the high-voltage library — a book that is very difficult to find in used book stores and so on. Get yourself a copy. You'll like it. Excellent book! 5x7 paperback 264 pages Cat. no. 20544 \$11.95



Electricity at High

## PRESSURES & FREQUENCIES





# Bladeless Tesla Turbine

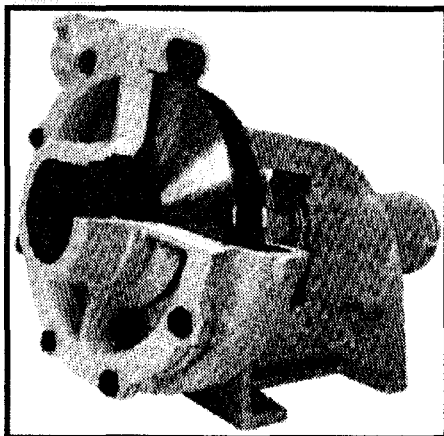
Boundary Layer Breakthrough  
THE BLADELESS TESLA TURBINE

compiled by C. R. "Jake" Possell

In 1909 Nikola Tesla applied for a patent on his bladeless steam turbine that could generate ten horsepower per pound of weight. Actually, the patent granted in 1913 was entitled "Fluid Propulsion" because the turbine could also be used as an efficient pump. Today, Tesla fans claim that this turbine is the solution to many of our energy problems, and that the modern world is ignoring one of the greatest inventions ever. You'll have to decide for yourself.

Here you get a collection of articles on the turbine/pump. Chapters include Tesla's Turbine, A Lighting Machine of Novel Principles, Boundary-Layer fire pump, Tesla's Hover Craft, Bladeless Jet Engines, and much more. Sources range from the *New York Herald Tribune* and *Motor World* to *Scientific American* and papers by Tesla himself.

You get many photos of applications, reproductions of the original patent plus related patents and much more. You'll get info on sources of plans should you want to build such a device.



This is an offbeat, quality book on an unusual topic. You hear a lot about Tesla's electrical inventions, but little about his mechanical. Get a copy of this. 5 1/2 x 8 1/2 paperback about 185 pages  
Cat. no. 1307

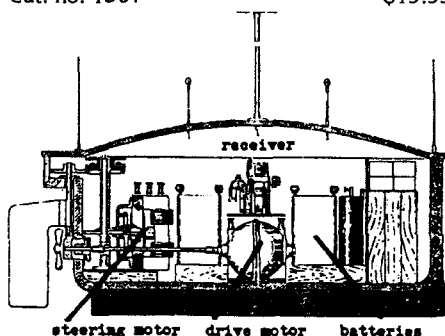
\$19.95

## Tesla's Lost Inventions

TESLA: THE LOST INVENTIONS

by George Trinkaus

"Here are the suppressed inventions of Nikola Tesla all in one place rendered in clear English and in 42 illustrations. Tesla was famous at the turn of the century for inventing the alternating-current system still in use today. But his later inventions, documented in some 30 U.S. patents between 1890 and 1921, have never been utilized as Tesla intended despite their obvious potential for advancing in fundamental ways the technology of modern civilization. Among these lost inventions: the disk-turbine rotary engine, the tesla-coil electric energy magnifier, high-frequency lighting systems, the mag-



nifying transmitter, wireless power, and the free-energy receiver." —from the front cover.

Like Trinkaus's other Tesla book, the only criticism that can be leveled here is that the chapters are too short. Interesting, unusual information, especially if you're just beginning your study of Tesla. Fairly priced. 8 1/2 x 7 booklet 34 pages

Cat. no. 748

\$5.95

## TESLA COIL

TESLA COIL

by George Trinkaus

Here's another Tesla coil book. It's a bit expensive for what you get, and much of it is a repeat, but there are some bits and pieces that I haven't seen.

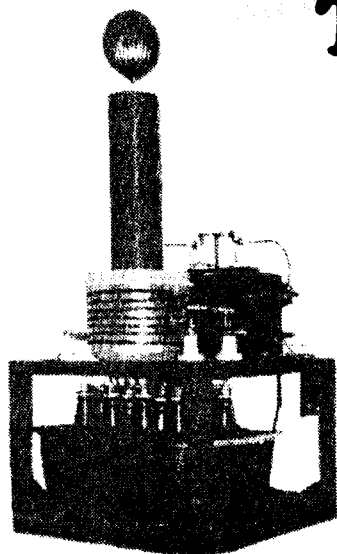
You get a brief overview of Tesla, his career and his coil. Then you get instructions on building a good sized coil using a neon transformer and a spark gap to drive the primary. The detail is not great but is probably adequate.

You get brief discussions and details on capacitors, glass-and-foil capacitors, oil capacitors, salt-water capacitors, series and rotary spark gaps, a schematic for a 6L6 vacuum tube driven coil, construction notes, hazards, Tesla lighting, ozone disinfectant, and magnifying transmitter. All this in 21 pages!

Obviously, the booklet does not go into great detail, but there are ideas and clues here that you might not have thought of yet that might be worth the price and then some. You'll have to decide. Consider it carefully. 7 x 8 1/2 booklet 21 pages

Cat. no. 741

\$4.95



- Jacob's Ladder
- Plasma Sphere
- Induction Coil
- Van de Graaff generator
- Tesla Coil
- Kirlian Camera
- Superconductor Disc
- See-in-the-Dark Viewer
- Robots
- much more!

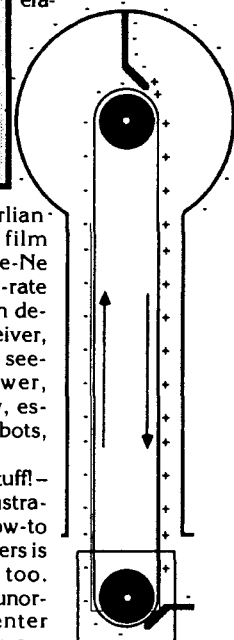
## 55 WILD PROJECTS!

GADGETEER'S GOLDMINE!

by Gordon McComb

Here, in a single book, are 55 off-the-wall devices you can build.

You get a Jacob's ladder, plasma sphere generator, induction coil, Van de Graaff genera-



tor, Tesla coil, Kirlian camera, piezo film speaker and amp, He-Ne laser pistol, variable-rate strobe light, radiation detector, universal receiver, superconductor disc, see-in-the-dark viewer, shape-memory alloy, espionage devices, robots, and more!

And this is good stuff! — plenty of detail: illustrations, diagrams, how-to text. The list of suppliers is quite impressive, too. This is a book every unorthodox experimenter should have in his library and never loan. Get one! 7 1/2 x 9 paperback 406 pages  
Cat. no. 383

\$18.95

### Please Use Your Customer Number

You'll find it on your address label and packing slip. It helps us get your order out quickly, and ensures that you will get future catalogs. (If you don't, we'll send out Big All to kick in your knees...)

# How to Build a 40,000 Volt Induction Coil

## HOW TO BUILD A 40,000 VOLT INDUCTION COIL

by Walt Noon

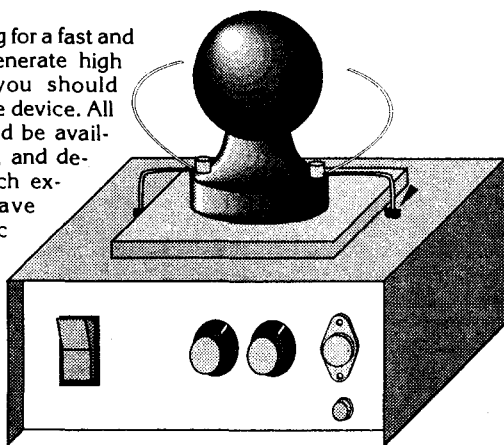
Are you looking for a fast and simple way to generate high voltage? Then you should build this nifty little device. All of the parts should be available in your area, and depending how much experience you have building electronic equipment, you should be able to bolt it together in a few hours.

As you already know, the ignition coil in your automobile is the modern equivalent of an old time induction coil. It is nothing more than a transformer that converts low voltage into very high voltage. The points in your automobile replace the old fashioned spark gap. Every time the points open, a pulse of DC current hits the coil like a hammer hits a bell. The ignition coil "rings" like a bell and produces a burst of high voltage. If you "hit" the coil fast enough, the ringing seems to be continuous.

Walt Noon's circuit here replaces the spark gap and the points with a low cost solid state circuit. The circuit takes 110 VAC out of your wall and converts it into a string of DC pulses. The pulses are sent to the terminals of an ignition coil that you can purchase at your local discount store. Off the high voltage terminal comes a solid 40,000 volts that can be used for a variety of experiments including plasma globes and Kirlian photography.

The circuit, based on a 555 timer integrated circuit, provides pulses with adjustable power and frequency. This allows you to easily tune the pulses to the natural resonant frequency of the coil which will significantly increase the output voltage.

You get drawings of the unit, parts list, circuit diagram, photos and assembly instructions for the coil. You are expected to have at least some experience building modern electronic



equipment with perf board. You get hints, tips and suggestions on where and how to make circuit modifications.

Probably best of all, Walt includes eight different experiments plus extensive details on Kirlian photography. He'll show you how to modify an inexpensive 35mm camera to take these unusual photographs in color and black and white. You also get six Kirlian photographs taken with the equipment he shows you how to build.

If you want to try your hand at high voltage experiments, this might be just the way for you to "cut your teeth", and it's something you'll be proud to show your friends. And it's a good way to literally shock the pants off them! Get a copy of this. It's unusual. It's well written. And it's inexpensive. You'll like it. 5 1/2 x 8 1/2 booklet 24 pages

Cat. no. 844

\$4.95



## SECRETS OF BUILDING ELECTROSTATIC LIGHTNING BOLT GENERATORS

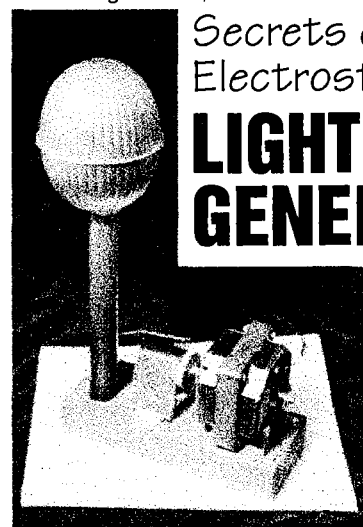
by Walt Noon

You can generate high voltage with AC transformer devices like the induction coil and Tesla coil, or you can make lightning bolts with electrostatic DC devices like the Van de Graaff generator. Walt Noon, the frenetic electrical experimenter, shows us some of the things he's discovered in his quest for high voltage.

He'll show you and explain the experiments he has run, the problems he has encountered, his solutions to those problems, ways to build low cost lightning bolt generators, ideas that yet need to be explored and much more.

If you're looking for a heavy, theoretical text or a step-by-step construction manual, then this won't cut it for you. BUT! if you want general instructions that will allow you to build high voltage machines out of what you have on hand, and then improve them, you need this.

Walt covers the electrophorus, his Rotostatic generator, his bizarre "Cat-o-Static" generator, motor speed controls, external Van de Graaff generators, the classic internal Van de Graaff generator, ideas for an extremely high voltage Van de Graaff, inductive electrostatic generators, the Dirod generator, and more.



## Secrets of Building Electrostatic LIGHTNING BOLT GENERATORS

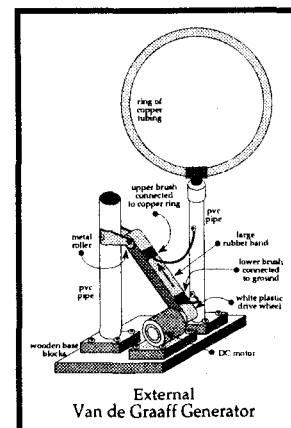
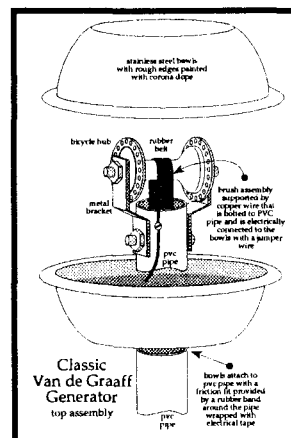
including  
high voltage test  
equipment,  
experiments,  
motors and more!

You'll find the equipment Walt has used to measure the voltages he has generated including his FET electro-scope, neon lamp banks, spark gap volt meters, and more. Walt will show you how to build storage capacitors along with details of his successes and failures.

You get a list of interesting experiments to perform from something as simple as making your hair stand on end to building a "perpetual motion" machine. You'll learn about a variety of ion motors, ion blowers, the Franklin electrostatic motor, the Poggendorff Corona Motor, and even capturing free electrical energy from the atmosphere (Ben Franklin did this, and it almost killed him!) As a bonus Walt will show you how he electroplates metal onto non-conducting forms to build low-loss high voltage terminals!

Walt is not a scientist nor a fantastic author. But he will clearly and humorously explain some of the crazy experiments he's tried and hopes you'll improve on. You get an easy-to-read text loaded with photos and drawings. You'll find that it's really quite easy to get started in electrostatics, and Walt's book will get you going!

Excellent book! Worth having. Get a copy. 5 1/2 x 8 1/2 paperback 91 pages Cat. no. 20900 \$8.95



# Elements of Magnetism & Electricity

## ELEMENTS OF MAGNETISM AND ELECTRICITY

by John Angell

reprinted by Lindsay Publications

Queen Victoria was very much alive and kicking (and she did a lot of kicking!) when this 1891 science text hit British schools. It had apparently been in print in various editions since 1867.

It's a great book because it presents "practical instructions for the performance of experiments, and the construction of cheap apparatus." And half the book, which is so beautifully illustrated, covers static electricity equipment.

Chapters include natural magnets or lodestones, artificial magnets, terrestrial magnets, history of frictional electricity, electrosopes and electrometers, electrical induction, frictional electrical machines, distribution and tension of electricity, the Leyden jar, and experiments. The last two chapters deal with voltaic or current electricity and its use in electroplating, the telegraph, induced currents, magneto-electricity and thermo-electricity.

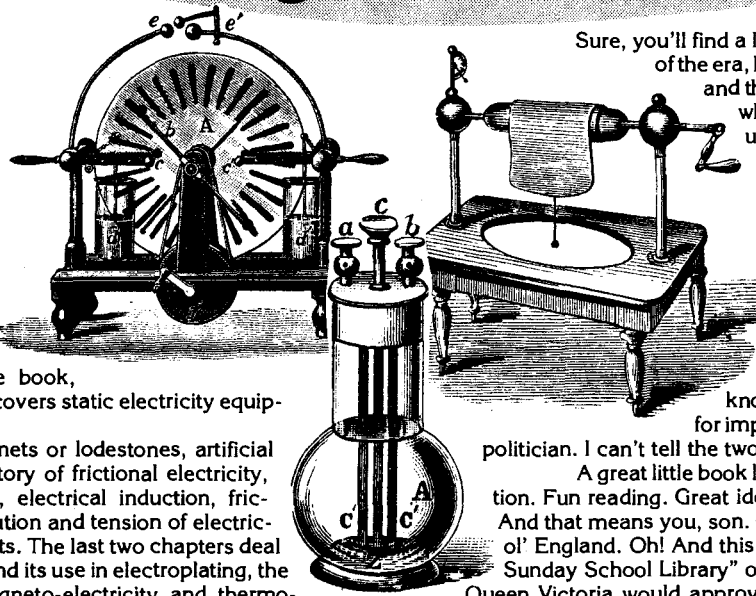
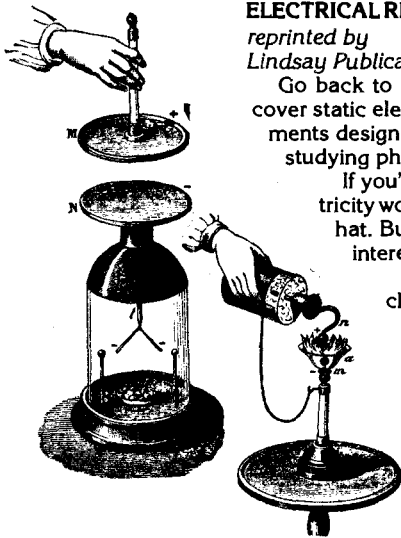
### William Peck's ELECTRICAL RECREATIONS

reprinted by Lindsay Publications

Go back to 1860 and discover static electricity experiments designed to inform and entertain students studying physics in schools and academies.

If you've collected other early static electricity works, you'll find some of this to be old hat. But other parts will be new and quite interesting.

Learn about the electrical chime, an electrified puppet, the electrical wheel, the electrical egg, the electrical square, the electrical cannon, the condenser of Epinus, using the condenser, slow and fast discharge of the condenser, the Leyden jar, a battery of



Sure, you'll find a lot of this stuff in other textbooks of the era, but the illustrations here are great and the equipment seems to be somewhat different from the varieties I usually see illustrated.

Build yourself a high-voltage machine, charge up *Æpinus's* condenser, and use the charge to create electrical hail inside a bell jar, or take an electrical portrait. Try Faraday's ice pail experiment. Or build equipment that will make your back bedroom look like Frankenstein's laboratory! Who knows? You might even get arrested for impersonating a mad scientist... or a

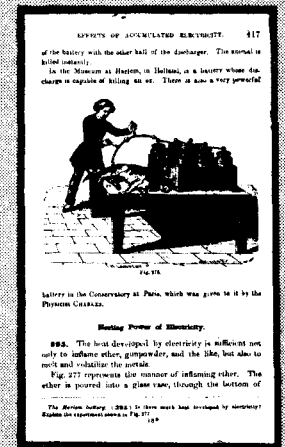
politician. I can't tell the two apart...

A great little book loaded with hard-to-find information. Fun reading. Great ideas for static electricity fanatics. And that means you, son. Get a copy. A goody from merry ol' England. Oh! And this copy came from the "Methodist Sunday School Library" on Exmouth Street. So you know Queen Victoria would approve of your experiments. Order a copy, and get started! 4x7 paperback 264 pages \$8.95 Cat. no. 20862

## Electrical Recreations

Leyden jars, the condensing electrometer, electrocution of dogs!, heating power of electricity, and the mechanical effects of electricity.

You'll find fascinating old time wood cuts illustrating almost every article. If static electricity is your field, you'll want to add this low-cost booklet to your reference library. Very interesting and very unusual. Get a copy. 5 1/2 x 8 1/2 booklet 24 pages \$3.25 Cat. no. 839



## STATIC ELECTRICITY!

### Dozens of Unusual Experiments!

#### STATIC ELECTRICITY

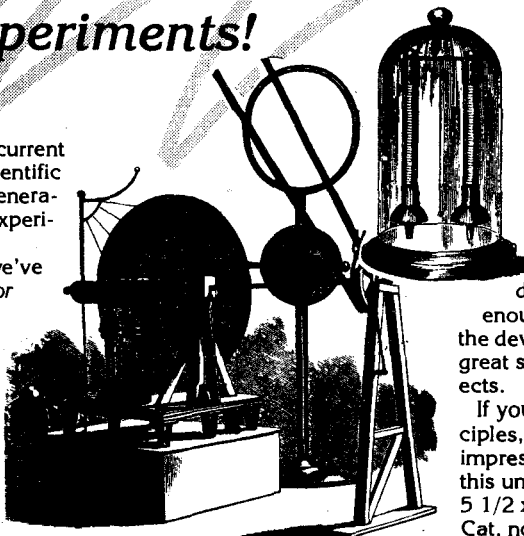
by J. H. Pepper

reprinted by Lindsay Publications

Back in the 1880's when people knew little about current electricity, static or frictional electricity was a scientific curiosity in laboratories and parlours. Giant lightning generators were built by amateurs and educators and bizarre experiments performed.

From Pepper's "Cyclopaedic Science Simplified" we've reprinted the chapter entitled "Electricity, Frictional or Static!", one of the best textbook discussions we've found yet.

You get a detailed discussion of electrosopes, 17 electroscope experiments, Cavallo's Cylinder Electrical Machine, the Royal Polytechnic Great Plate machine, Winter's electrical machine, the Holtz machine, the Electric Well experiment, experiments in induction, charge storage techniques, lengthy discussion of Leyden jars, the Leyden battery, followed by another thirty experiments including Cuthbertson's Balance Elec-

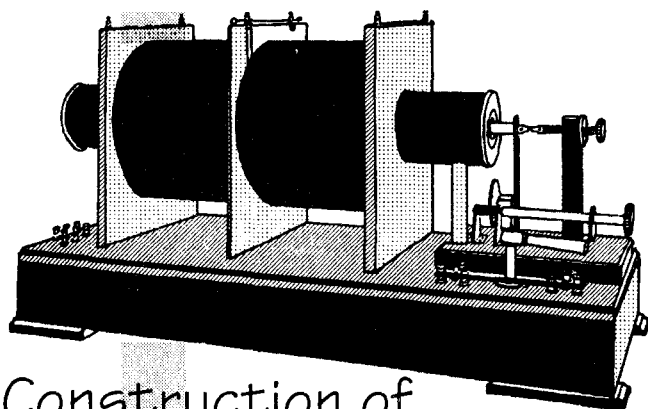


trometer, the electric bomb, Harris's thundercloud needle, and a couple of machines for generating high voltage with a steam jet! And there is much more.

Although this is not really a cookbook for building equipment, the wood engravings are quite detailed, and the text describes the equipment thoroughly enough that you could probably build the devices without great trouble. This is a great source for unusual science fair projects.

If you like to explore old scientific principles, build unusual apparatus, or just impress your friends, consider a copy of this unusual book. I think you'll like it. 5 1/2 x 8 1/2 paperback 88 pages \$5.95 Cat. no. 4783





## Construction of INDUCTION COILS

The Construction of  
**LARGE INDUCTION COILS** A Workshop Manual  
by A. T. Hare  
reprinted by Lindsay Publications

Induction coils often don't get their fair shake among the high voltage equipment builders. Tesla coils are the rage. They can generate far greater voltage, but not much power. A well-built induction coil can knock your socks off with voltage and deliver power to boot.

Tesla coils are essentially air-core, high-frequency, resonant transformers. Induction coils are iron core transformers that run at a lower frequency with little thought being given to resonance. But they sure do work! They've been firing automotive spark plugs for decades.

You can build a big coil! One with a core 18" long that is almost 1 3/4" in diameter and weighs almost eight pounds. The secondary is made up of over 79,000 turns of very fine wire weighing 19 pounds and being almost 17 miles in length! This is the kind of machine you see illustrated in those bizarre turn-of-the-century medical texts!

Chapters include: the core, the primary coil, the main insulating tube, the condenser, the commutator, the break, the secondary coil, the winding, mounting the discs, outer insulation, covering and finishing, hand breaks, electrolytic breaks and more.

You get 35 drawings showing everything from the general layout of components to the procedure of applying insulation to the main tube. You'll learn how to build the capacitor and how to treat it to increase its capacity. You'll learn how to build and adjust

the break (the vibrating contacts that drive the primary). You'll see how to build a unique machine to coat wire with paraffin to improve its insulating qualities. And more!

Even if you don't intend to build something quite this big (or quite this small) this is still a book worth having. The lessons taught here can be applied to other projects. This is great 1900 how-to!

If you build this monster and fire it up, just let me know so that I don't call the fire department by mistake! And if you try to hook it up to an X-Ray tube, I'm leaving the country! Excellent book. Rare how-to! A "must have" for all apprentice mad scientists. Build one of these machines, and scare the hell out of everyone! 5 1/2 x 8 1/2 paperback 155 pages

Cat. no. 20897

\$9.95

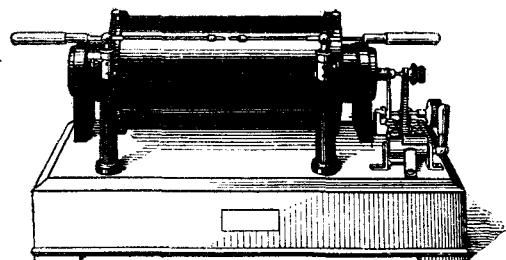
## THE DESIGN & CONSTRUCTION OF INDUCTION COILS

by A. Frederick Collins

Inside the cover of this 1908 classic is the author's statement: "For over fifty years the induction coil has held a preeminent place in the experimental laboratory for the production of high potential [high voltage] currents, but it did not become a commercial piece of apparatus until Roentgen announced his discovery of the X-rays in 1890..."

The art of coil making has been developed to a remarkable degree, [but] the actual processes of construction... have not been hitherto available....

The present work treats of eight different sizes of coils, varying from one giving 1/2-inch sparks to a large one giving 12-inch sparks. These various sized coils are included in three specific designs, and I have tried to tell in easily comprehensible language each process in sequence, together with the dimensions of each part down to the smallest screw...." Here you get one of the best books I've ever seen on their construction.



## Design and Construction of Induction Coils

Twenty chapters delve into the theory of the coil and the action of each of its components, design of spark coil cores, choosing interrupters, details of condenser design and size, and more. Wire is discussed along with its cutting, straightening, annealing, the making of the paper tube, bundling and taping wires for large cores, and more.

Detailed discussions reveal the advantages of silk versus cotton-covered magnet wire, mounting the spool in the lathe, winding the primary, making a winding jig, winding the primary by hand, insulating the primary, the intricacies of winding the high-voltage secondary including details of a special winding machine, the impregnation of insulation waxes, the winding of helical secondaries, construction of aperture insulating rings, and more.

You'll learn how to dip the coil and bake it, build a vacuum apparatus to impregnate the apparatus, to dry the insulation, machine the parts for a simple spring interrupter, assemble the parts, mount the finished device, and more.

You'll learn about making tinfoil and paper condensers, adjustable mica condensers, reversing switches, and much more. You get wiring diagrams for various coils, final assembly details, sources of direct current including dry cells, plunge batteries, chloride accumulators, and more.

This is a really a great book. You get more useful data in one place on building coils than you'll usually find in a dozen other books. Tesla coils are fun and fascinating, but so is the induction coil. Build one. Experiment. Have fun. Show your friends. Brag about it. Get a copy of this! Highly recommended! 5 1/2 x 8 1/2 paperback 272 pages - well illustrated

Cat. no. 20404

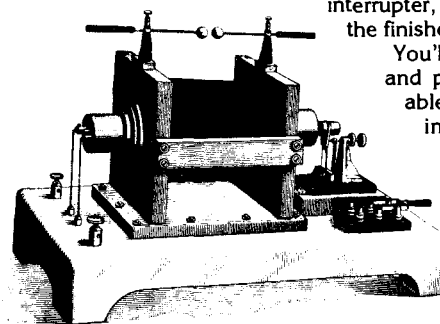
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### SPECIAL HARDCOVER EDITION

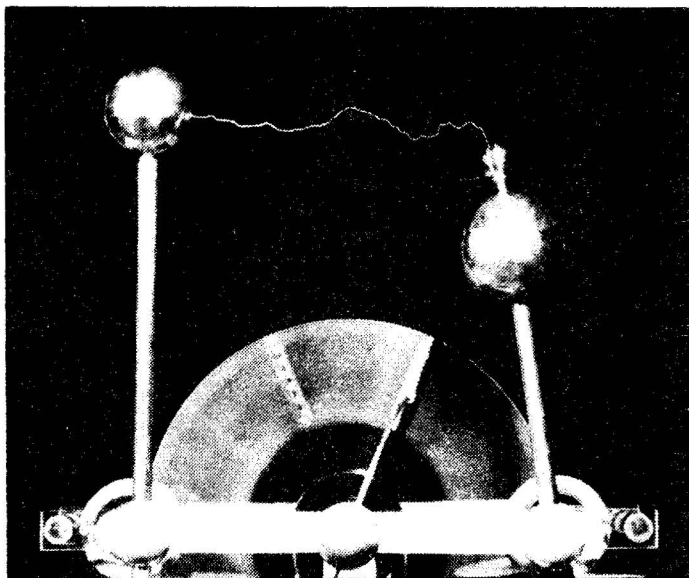
A fraction of the print run has been reserved for collectors and libraries. This may edition may be out of stock for long periods of time.

Cat. no. 20447

\$19.95



**NOT  
AVAILABLE**



## HOMEMADE LIGHTNING

### Creative Experiments in Electricity

by R. A. Ford

From the back cover:

"The author explains how to build an affordable high-voltage generator and then describes how to use the generator safely to conduct your own electrostatics research. Ford has compiled a fascinating collection of experiments to get you started that reveal the wide-ranging impact of electrostatics on motor design, plant growth, medicine, aerodynamics, gravity, photography, meteorology, and much more. Each of these tested, safe and inexpensive projects include thorough instructions and detailed illustrations."

Probably the best part of the book is Ford's Wimshurst machine – a beautifully built machine capable of producing 10 1/2" sparks. You get brief but adequate instructions, drawings, photographs, hints and tips to get this powerful static generator going.

You also get plans for an electroscope, the Leyden jar condenser, and the electrophorus. Ford describes experiments you can perform such as electrostatic motors, electrohorticulture, cold light, the levitating rocket, and more. You'll also get historical articles on early electrostatic machines, instruments, and more.

This is an excellent book. It has much the same information you'll find in other books in this catalog, but this equipment is built with currently available materials. I think that if you use this book with the rare classical information found in the old reprinted books, you will be on your way into a new world of high-voltage experimentation.

You'll find this book is about electrostatics, that is, static electricity. There is nothing on AC devices such as the Tesla coil. Good book. Order a copy! 7 1/2 x 9 1/2 paperback 198 pages Cat. no. 380

\$14.95

## Build a High-Voltage WIMSHURST MACHINE

### THE WIMSHURST MACHINE

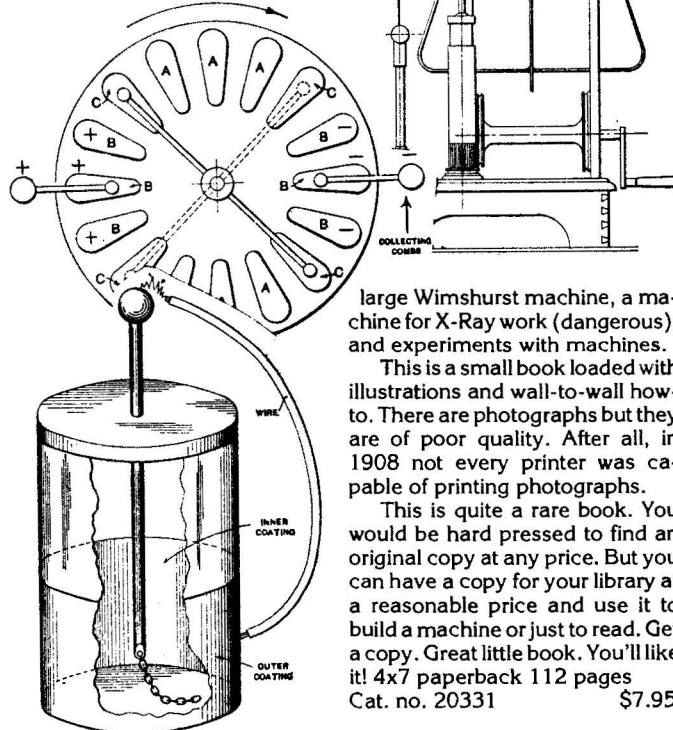
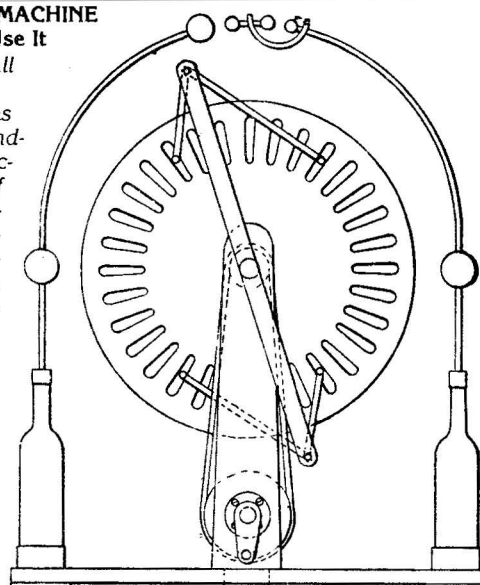
#### How to Make and Use It

by Alfred W Marshall  
reprinted by  
Lindsay Publications

"A practical handbook on the construction and working of the Wimshurst machine, including radiography and wireless telegraphy, etc., and other static electrical apparatus."

Build yourself a copy of this classic lightning bolt generator. This is no toy! Its 24" plates will knock your socks off – and probably electrocute you if used with Leyden jar accumulators. This is a heavy duty machine.

Chapters include introduction, static electricity, the electrophorus, the electroscope, condensers, the Leyden jar, parts of a Wimshurst machine, making and management of Wimshurst machine, examples of machines, a

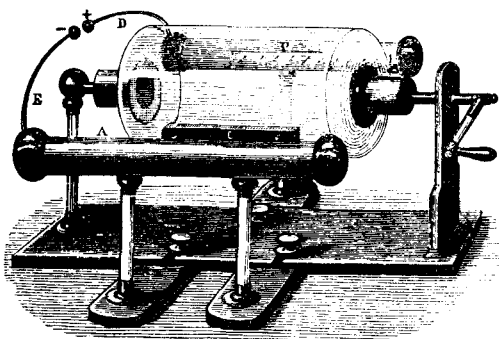


large Wimshurst machine, a machine for X-Ray work (dangerous), and experiments with machines.

This is a small book loaded with illustrations and wall-to-wall how-to. There are photographs but they are of poor quality. After all, in 1908 not every printer was capable of printing photographs.

This is quite a rare book. You would be hard pressed to find an original copy at any price. But you can have a copy for your library at a reasonable price and use it to build a machine or just to read. Get a copy. Great little book. You'll like it! 4x7 paperback 112 pages Cat. no. 20331

\$7.95



## Silliman's **Electrical Machines**

**SILLIMAN'S ELECTRICAL MACHINES**

reprinted by  
Lindsay Publications

If you'd like to build a powerful lightning bolt generator, this a publication you should study for ideas. You get beautifully illustrated pages from Benjamin Silliman's book entitled *Principles of Physics or Natural Philosophy* published in 1865.

Learn about electrophorus, the cylinder electrical machine, Ramsden's plate machine, the American plate machine, Ritchie's double plate machine, the Tylerian machine, care & management of machines, electricity from steam, and other sources of electrical excitement. Discover seven simple but entertaining experiments. Then investigate equipment to store electricity such as the Aepinus condenser, Volta's condensing electroscope, Dr. Hare's single gold leaf electrometer, the Leyden jar, Leyden jar batteries, the spark, Kinnersley's thermometer, electrical discharge in a vacuum, the diamond jar, scintillating tube and magic squares, chemical experiments, Volta's lamp and more.

This is another collection of rare static electricity information that is no longer found in modern physics textbooks. And wood cut illustrations like these haven't been produced in decades. Get a copy of this. It will make an excellent addition to your reference library. 5 1/2 x 8 1/2 booklet 24 pages  
Cat. no. 840

\$3.25

## Classic 1884 **Deschanel's STATIC ELECTRICITY** Physics Text!

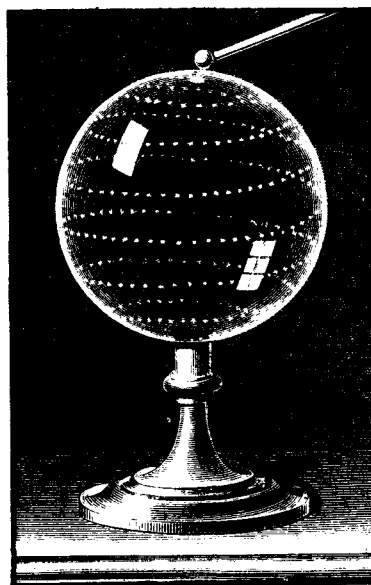
**DESCHANDEL'S  
STATIC ELECTRICITY**

by A. Privat Deschanel  
reprinted by Lindsay Publications Inc

In 1884 Deschanel's "*Elementary Treatise on Natural Philosophy*" (what we now called physics) was translated from the French and published in the U.S. as a series of four volumes. Here you get just those chapters dealing with static electricity.

You get introductory phenomena, electrical induction, measurement of electrical forces, electrical machines, various experiments, electrical potential and lines of force, electrical condensers, effects produced by discharge of condensers, electrometers, and atmospheric electricity.

You'll find many of the same devices described and illustrated in other books, but these are a bit different. You'll see Nairne's machine, an unusual variety of Winter's machine, Armstrong's Hydro-electric machine, Holtz's machine, and Bertsch's machine. Just a few of other experiments shown and described are discharge in Torricellian vacuum, the electric egg, the spangled globe, the electric mor-



tar, Leyden jars, the condenser of Aepinus, and the condensing electroscope. You'll see rare and unusual views of the complex portable electrometer, the quadrant electrometer, and many others.

This is a detailed textbook with really great illustrations, excellent text, and even math to back up the theory. Yes, much of this information is available in other books, but this one of the best dissertations I've seen anywhere. And you're sure to get many new ideas. Every static electricity experiment, at the very least, should have a copy for reference. You'll like it. Get a copy! 5 1/2 x 8 1/2 paperback 112 pages

Cat. no. 20722

\$7.95

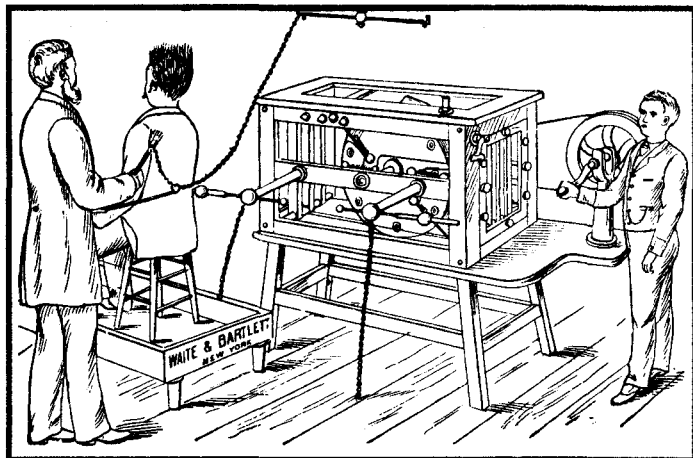
## **Electrocute Your Hemorrhoids!**

**PRACTICAL ELECTRICITY IN MEDICINE AND SURGERY**

by G.W. Overall, MD

reprinted by Lindsay Publications

I'm not sure I can believe what I read in this book. Overall wants you



to believe that electricity can cure everything from lead poisoning to constipation. (Of course, over the years I have gotten the !!!! shocked out of me more than once.)

If you believe in electro-therapy, that's your business. I don't. But I do like this as an early handbook on electrical machines, the excitement they caused, and the hopes that people had that electricity would solve the world's ills, if not their own.

You'll find this to be a reprint of the rare first 1890 edition published in Memphis TN. It's broken into four parts which contain chapters covering the galvanic cell, galvanic current, Faradic current, the effect of these currents, electro-diagnosis, modes of application, the electric cabinet vapor bath, the electric tub bath, treatment of special diseases of the brain, paralysis, rheumatism, chorea, and so on. Part four covers electrolysis, organic diseases of women, electrocautery, batteries, electrodes, and so on.

What I particularly like are the first few pages that describe and show static machines and their use, as well as galvanic battery machines, and so on. Later in the book are unusual medical electrodes that look like something out of a Frankenstein movie. Again, I don't believe the info in the back half of book. In fact, it might be downright dangerous. But this IS a rare book that gives you a glimpse into early ideas about electricity and its use in medicine.

Consider this book carefully. I think it's unusual, and worth having. (After all, [don't go to the expense and trouble of reprinting books that I feel are NOT worth having. — I may be crazy, but not stupid! Yes, I know. People would debate that too. ) Maybe I can use this as a guide to build equipment to deal with my loonie in-laws. Maybe you can, too. Rare, interesting book. Order a copy. 5 1/2 x 8 1/2 paperback 136 pages

Cat. no. 20595

\$7.95



# PLANS

## Plans & Instructions to Build the "MINI" TESLA ELECTRIC SPARK COIL

by John F. Nguyen

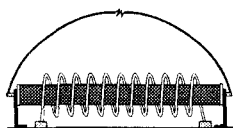
You get a small booklet, typewritten booklet with practical how-to from a high voltage experimenter. In other words, this is a set of plans for a working Tesla coil written by something who has done it. It works. And you'll find a photo of the coil on the cover.

This coil uses a primary of 8 gauge wire driven by a Model-T hum coil which can be purchased from some auto supply houses (suggested sources provided.) The primary consists of 34 gauge wire wound around a 16" length of PVC tubing.

I must warn you that the how-to is not extremely detailed, but it's still quite good. Any Tesla coil experimenter would do well to have these plans. This is a home-grown coil and a home-grown publication that you won't find in any bookstore. Look it over carefully. Brief, but fairly priced. Buy a copy and start building. 5 1/2 x 8 1/2 booklet 16 pages

Cat. no. 374

\$4.00



## Plans & Instructions to Build the HIGH FREQUENCY ELECTRIC COIL

by John F. Nguyen

This is actually a Oudin coil (very similar to the Tesla coil) that like the coil above is driven by a Model-T hum coil and an 8 gauge primary. The secondary is wound with 34 gauge magnet wire around paper tubes.

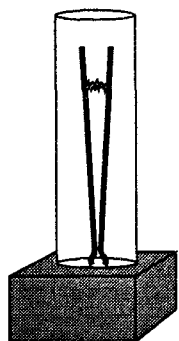
You'll find this is brief, typewritten, and not "slick" in appearance, but is written by someone who has done it. If you're into Tesla coils, you should have this. Order a copy. 5 1/2 x 8 1/2 booklet 16 pages

Cat. no. 375

\$4.00

## Plans & Instructions to Build the TRAVELING ELECTRIC ARC (JACOB'S LADDER)

by John F. Nguyen



You've seen them — those two wires sticking up in the air in a "V" shape with a spark that starts at the bottom and slowly travels upward. You've seen them in the "mad scientist" movies.

The ladder is easy to build and quickly goes together. It makes an impressive science fair project, although I'm not sure exactly what scientific use there is for

it. Maybe you can use it to terrify your neighbors.

Another typewritten booklet by someone who has done it. Get a copy — for your reference library, if nothing else. 5 1/2 x 8 1/2 booklet 16 pages

Cat. no. 376

\$4.00

## ELECTRICAL INSTRUMENT-MAKING FOR AMATEURS

by S. R. Bottone

reprinted by Lindsay Publications Inc

You can go back a hundred years and build your own equipment and be right at the "cutting edge" of 1888 technology.

You get basic information on materials, soldering, and working glass. Then you build pith ball and gold leaf electroscopes, a Coulomb torsion balance, and Volta's electrophorus static generator. You'll learn how to take a sheet of glass and cut a circle from it, drill a hole in the center and use it to build Bertsch's high-voltage static generator, Carre's Dielectric machine, a Holtz machine, and a Wimshurst influence machine. Any one of these machines is powerful enough to shock the underwear off Aunt Annabelle!

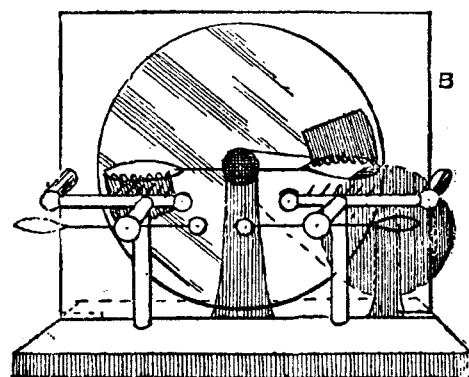
You'll learn how to build a medical coil that produces a 1/2" spark, or a 1" spark induction coil. With a powerful magnet you can make a shocking machine which appears to be little more than a simple magneto. Build a uni-direction current machine (a motor), a dynamo, an ammeter, a voltmeter, a galvanometer, batteries, a single fluid cell, a double fluid cell, and using these two basic battery configurations how to create powerful batteries using chemicals from zinc chloride and sulphuric acid to sal ammoniac and potassium dichromate which are more commonly known as the Daniell, Bunsen, Smee, Walker cells and others. Then you get simple plans so that you can build a working electrical telephone, the newest rage a hundred years ago.

Obviously so many topics are covered in such a small book that the number pages devoted to each topic are necessarily limited. Nevertheless, you get enough useful information to build working equipment. The illustrations are primitive by today's standards but are informative.

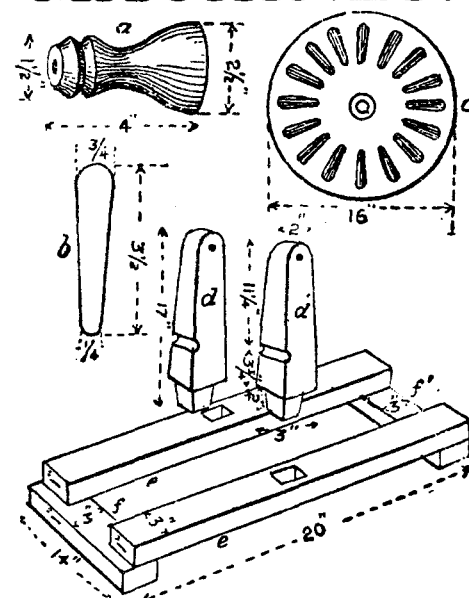
Fascinating book! Valuable information! Get a copy. Worth having. 5x7 paperback 183 pages

Cat. no. 4929

\$9.95



## BUILD ELECTRICAL MACHINES!



## Lakhovsky Multi-Wave Oscillator

### LAKHOVSKY MULTIPLE WAVE OSCILLATOR HANDBOOK

compiled by Thomas J Brown

Supposedly sometime before World War II, Russian experimenter Lakhovsky asked Nikola Tesla to help him design a high voltage generator that could produce electrical energy at many different frequencies simultaneously. A model of the machine was tested by physicians of the time who found that it not only had a 98% cure rate for terminal cancer, arthritis, and other "hopeless" diseases, but that it could rejuvenate plants and animals as well.

No doubt the oscillator works and is an interesting piece of equipment, but I wouldn't stake my health or anyone else's on it. Quack medicine machines were everywhere in the 1920's & 30's. This could well be another.

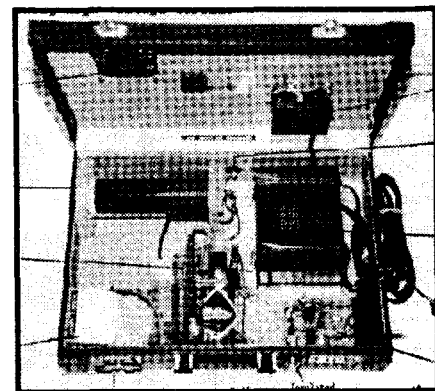
In this typewritten report you get historical details, wiring diagrams, construction tips, articles on waves that heal, "documented" cases of cure, reprints of the Lakhovsky patents, and a series of reprinted magazine articles on the use of radio frequency waves to cure disease.

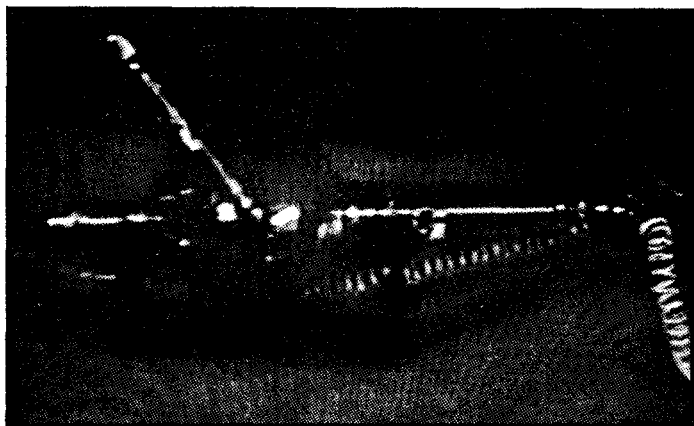
Modern physicians have found that electrical fields can speed healing of wounds in some in-

stances. Perhaps this material has some merit, or perhaps it's all a hoax. Maybe it's another suppressed invention. You figure it out. You'll find it interesting reading — a very unusual collection of material. Get a copy. 8 1/2 x 11 paperback 144 pages

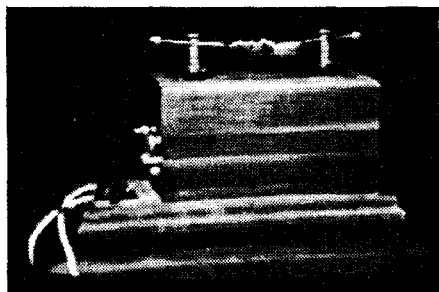
Cat. no. 357

\$17.95





## X-Ray & Geissler Tubes! High Voltage!



### VIDEO - IN QUEST OF THE LIGHT; VISIBLE AND INVISIBLE

by Kruezer and Hardesty

Tour an amazing collection of early electrical hardware and watch it operate on this fascinating 90 minute videotape.

You'll see electroscopes, pictures of early electrostatic machines and vacuum pumps, early batteries and galvanometers. You can watch as each of several early inductions coils come to life throwing big sparks. See an early device used by physicians to measure the voltage of their high-voltage electrical machine before turning it on their patients.

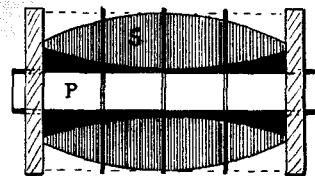
Then watch colorful Geissler tubes (related to neon tubes of today) come to life when they're connected to an induction coil. Watch the amazing paddle wheel or railway tube operate when hit with an electron beam.

Next, you'll see Crookes tubes and how they lead to the discovery of X-Rays by Roentgen. You'll see a variety of early X-Ray tubes and learn how they had to be controlled and operated. You'll also see the rare pamphlets Roentgen published announcing his discovery to the scientific world a hundred years ago.

You get a fascinating historical exhibition of early electrical equipment with informative narration. To see early Geissler and X-Ray tubes operate is full color is exciting. You may want to experiment with Geissler tubes. X-Ray is probably too dangerous. I don't know where else you'll find an experience like this. If you're into high-voltage projects, I think you'll find this very entertaining. Get a copy! 90 minute VHS video tape Cat. no. 396 \$29.95



## INDUCTION COILS!



### How to Make, Use and Repair Them...

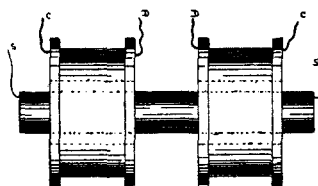
#### INDUCTION COILS

How to Make, Use, and Repair Them

by G. D. Overall, MD

reprinted by Lindsay Publications Inc

Although this classic work first appeared in 1896, this fourth edition was printed in 1907. And it's just that - a classic. It's not the best book on induction coil construction, or batteries, or wireless telegraphy, or X-Ray or any other high voltage experimentation, because each chapter could be a book in itself. But it is a classic that anyone interested in lightning bolt generators tries to get his hands on. And although Norrie's book covers much the same information as others, you get a different



slant, a different point of view that you will find useful.

Chapters include Coil Construction, Contact Breakers, Insulations and Cements, Condensers, Experiments, Spectrum Analysis, Currents in Vacuo, Rotating Effects, Gas Lighting, Batteries for Coils, Storage or Secondary

Cell, Tesla and Hertz Effects, the "Roentgen" Rays and Radiography, and Wireless Telegraphy.

You get information, some of it quite unique, on Ruhmkorff coils, oil immersed coils, a disruptive Tesla coil, medical coil with interchangeable secondaries, mercury vibrators, Wehnelt interrupter, adjustable cone vibrator, insulating compounds, Leyden Jar construction, glass plate condensers, adjustable condensers, experiments with luminous effects, use of the spectroscope with coils, different forms of mercury air pumps, Geissler tubes, effects of discharges in rotating tubes, application of the Ruhmkorff coil for lighting gas, and more.

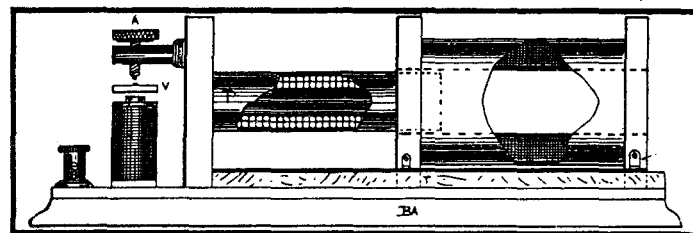
You'll learn how to build batteries: Grenet, Fuller, Gravity, Dun, Gethis, Gordon, New Standard, and others. Learn how to build and use secondary, or storage batteries. Investigate the "Tesla" effects, the use of high frequency currents in electro-therapy, ways of generating X-Rays (very dangerous), the construction of a very early wireless set using a coherer detector, and much more.

You'll find many illustrations. They aren't all that spectacular but you do get 79 drawings, and 8 tables.

This is a book that should be in every high voltage experimenter's library. It IS a classic. If it has any fault, it's that the author has tried to cover too much material in too small a book. Nevertheless, there is much here that you can use. The reprint will cost you less than the cost of an original if you can find one. Get a copy. You'll like it. 41/2 x 6 paperback 288 pages

Cat. no. 20510

\$9.95



# Experimental Physics

## Procedures in EXPERIMENTAL PHYSICS

by John Stong  
reprinted by Lindsay Publications

If you consider yourself an experimenter, an inventor, or a builder of unusual machines and equipment, you must have a copy of this fantastic classic text. No two ways about it.

You'll find wall-to-wall practical how-to and incredible illustrations on almost every one of the more than 600 pages. Chapters include: laboratory glass blowing, laboratory optical work, technique of high vacuum, coating of surfaces by evaporation and sputtering, the use of fused silica, electrometers and electroscopes, geiger counters, vacuum thermopiles and the measurement of radiant energy, optics, photoelectric cells and amplifiers, photography in the lab, heat and high temperature, notes on the materials of research, notes on the construction and design of instruments and apparatus, and molding and casting.

This is some incredible stuff! Learn how to blow glass and make aspirators, distillation condensers, and so on. Learn how to seal copper to glass so that you can imbed electrodes. This could be handy for trying to make light bulbs, vacuum tubes, or x-ray tubes maybe.

Learn how to rough cut lens blanks from large plates of glass and then grind them into lenses on your homebuilt lens grinder. Learn how to make a parabolic telescope mirror using the standard techniques. Learn to make unusual equipment to test the finished mirror. Learn how to grind a Schmidt lens.

To create high vacuum you'll read about roughing pumps, the vapor pressure of waxes, getters for creating the highest vacuums, and learn to make a variety of diffusion pumps using mercury and oil. See charcoal traps, kinetic vacuum systems, vacuum gauges of all types. Remember, all this comes with construction details.

Learn how to silver mirrors with a variety of methods including vacuum sputtering. You'll find extensive details on the evaporation technique for aluminum.

Fused quartz is valuable because unlike glass it can withstand extreme temperature changes without shattering. Learn how to build

**Incredible Laboratory Secrets!**  
**Wall-to-wall Illustrations!**  
**Rare "how-to" information!**  
**Reasonable Price!**

ray and cosmic ray work. Build a Geiger counter. You can build your own Geiger-Mueller tube if you master the high-vacuum technique taught earlier. Unfortunately, most of the electronics described is based on vacuum tubes of fifty years ago rather than on transistors.

Build vacuum thermopiles that measure infrared, visible light and ultra-violet so accurately that they can be used to calibrate photographic lightmeters and such.

You've heard of carbon arc lights, but do you know how to build iron arc lights? Or low pressure mercury arc lights? And others? You can even build a machine to measure the wavelength of colored light.

You'll find details on hydrogen furnaces, crucibles, burners, electric arc furnaces, and even a lab setup for making artificial rubies and sapphires! And there's much more - even down to what we consider the "easy stuff" like using a lathe and sand casting.

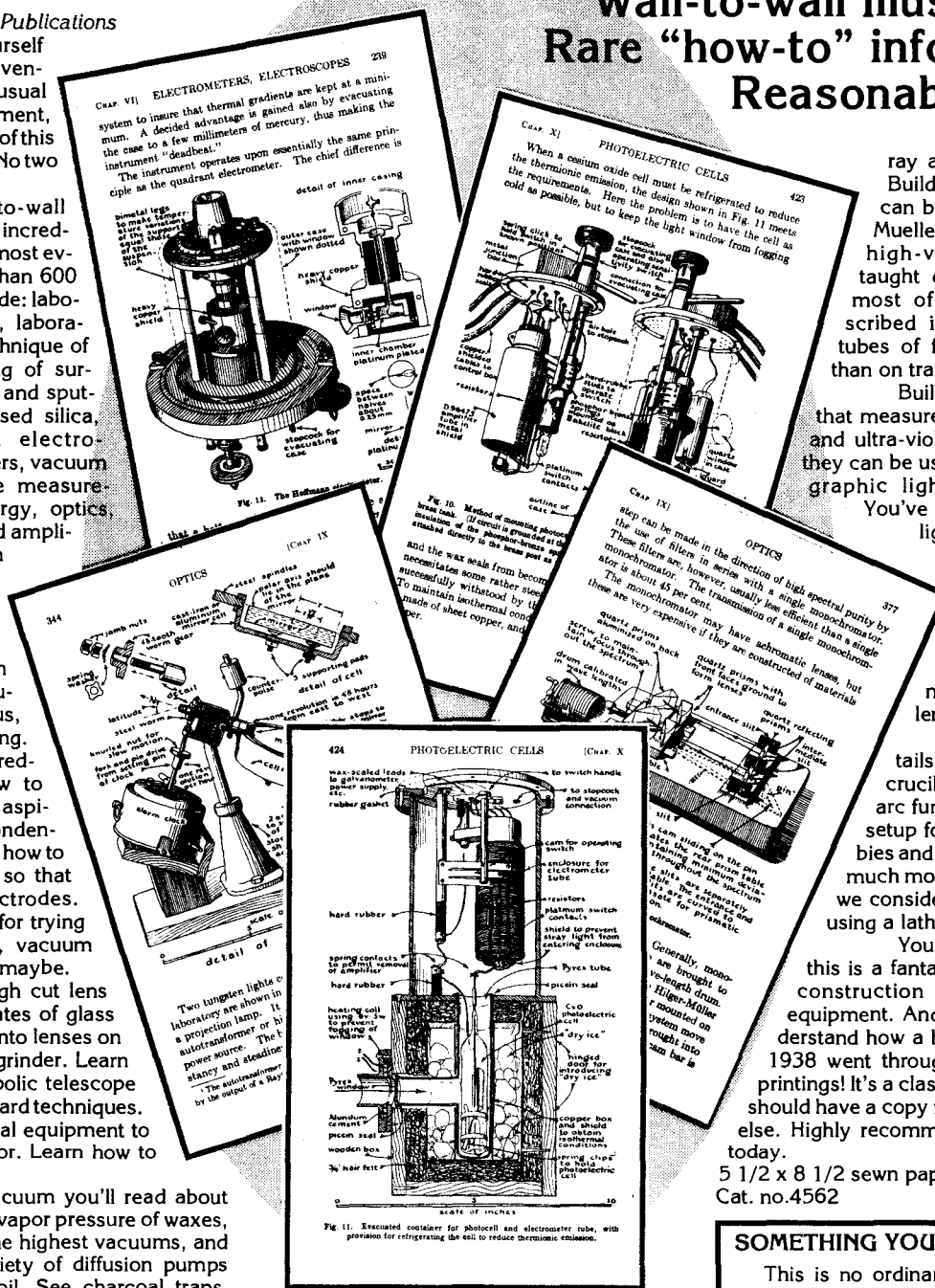
You should see by now that this is a fantastic book loaded with construction secrets for unusual equipment. And you should now understand how a book first published in 1938 went through a couple of dozen printings! It's a classic. It's incredible. You should have a copy for reference if nothing else. Highly recommended. Order a copy today.

5 1/2 x 8 1/2 sewn paperback 642 pages  
Cat. no.4562 \$23.95

## SOMETHING YOU SHOULD KNOW

This is no ordinary paperback book. *Experimental Physics* is printed on acid-free paper and is sewn like a hardcover book to prevent pages from falling out.

According to pricing formulas, it should sell for much more. If a book like this were released today by a certain major book publisher whose books I've carried from time to time, they would charge from \$45 to \$65 a copy. Maybe even more. At \$23.95 it's a steal. Get a copy.





# EXPERIMENTAL SCIENCE!

## EXPERIMENTAL SCIENCE

by George M. Hopkins

Fantastic! There is no other way to describe this incredibly illustrated two-volume set from 1906. It is certainly worth having.

Starting about 1889 "Scientific American" Magazine published a regular column by George Hopkins showing readers how they could build experimental equipment and test their own versions of new inventions such as the electric light, telephone, and phonograph. Hopkins' columns were routinely reprinted in books, and this 25th edition from 1906 had to be split into two volumes. And what a pair of volumes they are!

You'll find some of the most fantastic wood engravings ever, illustrating experimental equipment of all types.

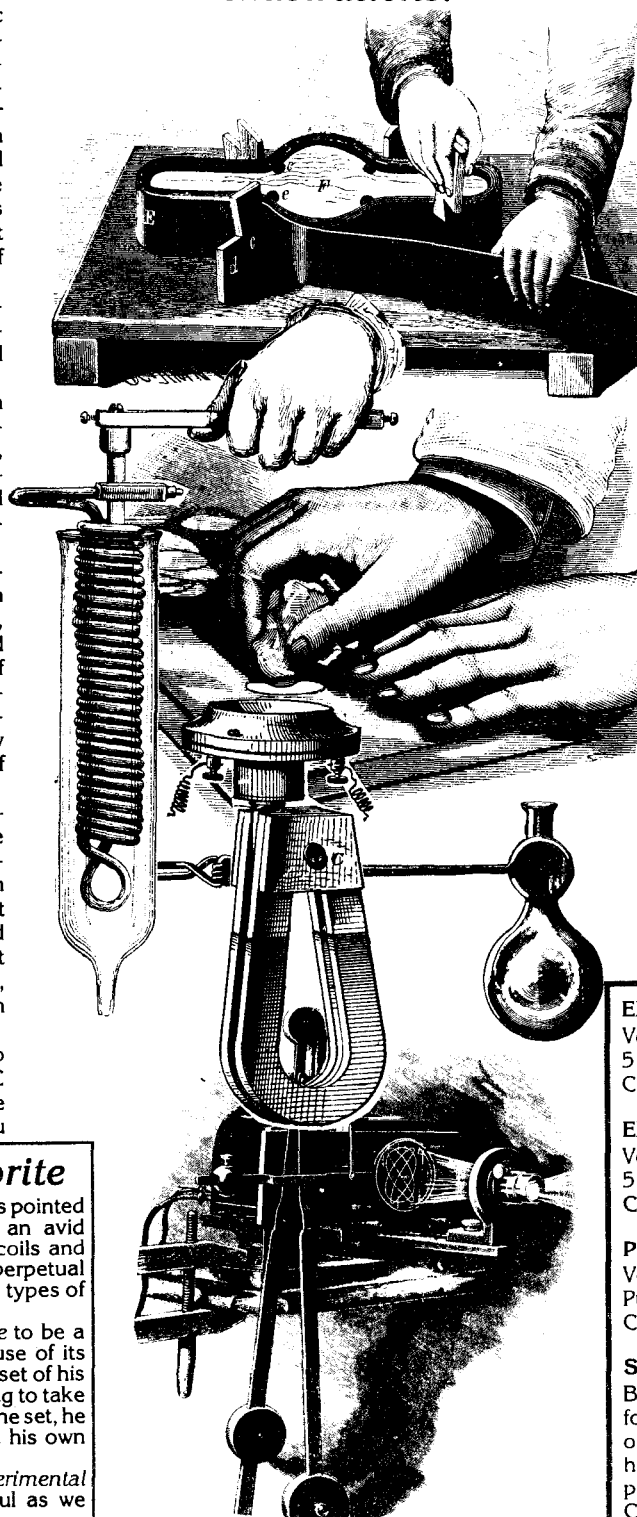
Volume One consists of nineteen chapters on rest, motion, force, gyroscopes, liquids, gases, sound, heat, light, polarized light, microscopy, photography, magnetism, frictional (static) electricity, dynamic electricity.

Build a gyroscope, Foucault's pendulum, a simple hydraulic press, a hydraulic ram, simple air pump, Geissler tube, a recorder for sound vibrations, device for production of sounding waves, a simple phonograph, centrifugal siren, and Norremberg Doubler. And these are just a few of the projects in only the first half of the first volume!

You can build a simple microscope and accessories, or a simple camera with plate holder, make Daguerreotype photos like those from the 1840's (dangerous), experiment with magnets, static electricity, build all kinds of batteries, a device that converts heat directly into electricity, build bells, electromagnets, and even a 1/4 hp electric motor.

Volume Two will take you into more electricity by investigating AC electricity, arc lamps, high voltage induction coils, and much more. You

**Over 1,000 Pages! • Incredible Machines! • Forgotten Experiments! • Incredible Illustrations!**



can build a telephone. Build a magic lantern and perform a variety of interesting projections.

You'll get practical how-to on blowing glass, making lenses, etching glass, making test tube racks and the like, making and using a crucible furnace, sand casting, making carbon rods and plates, and more.

You'll be shown how to perform a variety of scientific parlor tricks. Discover scientific uses for the phonograph, build an opaque projector, and a simple acetylene gas generator. Try experiments with super cold liquid air, or new advances in photography including color photography, divining rods and metal detectors, long distance telephony, new wireless telegraphy, building an electric clock, high voltage experiments, even poly phase electricity!

If you haven't guessed by now, this is both an introduction to physics and simple directions for building strange equipment.

The how-to you get is not overly detailed. You're expected to have some mechanical ability. You WILL get excellent illustrations that will show you almost everything you need to know. Any additional secrets are pointed out in the text.

If you want to build and run scientific equipment that hasn't even been seen in decades, you should have this. Kids can build a unique science fair project. Old book lovers will treasure this. And if you love machines, you will get hours and hours of enjoyable reading.

It's impossible to reveal the scope and beauty of these two books in the limited space this catalog provides. But take my word for it, these are fascinating books. Top quality. Expensive, but worth the price. Look them over carefully.

## EXPERIMENTAL SCIENCE

Volume One  
5 1/2 x 8 1/2 paperback 560 pages  
Cat. no. 4490 \$19.95

## EXPERIMENTAL SCIENCE

Volume Two  
5 1/2 x 8 1/2 paperback 532 pages  
Cat. no. 4503 \$19.95

## PACKAGE - PAPERBACK

Volumes One & Two  
Purchased separately: \$39.90  
Cat. no. 926 \$34.95

## SPECIAL HARDCOVER OFFER

Both volumes in sewn hardcover bindings for libraries and colleges. Available in sets only. Paperback volumes have been predicted. Cat. no. 927 \$48.95

## Researcher's Favorite

The existence of these books was pointed out to me several years ago by an avid experimenter who has built Tesla coils and Wimshurst machines, researched perpetual motion, free energy devices and all types of unorthodox subjects.

He found *Experimental Science* to be a very valuable reference, but because of its rarity, he hadn't been able to buy a set of his own. When I told him that I was going to take a chance on reprinting the two volume set, he jumped for joy. Now he can afford his own set. So can you.

We're confident you'll find *Experimental Science* as much fun and as useful as we have.

# Photocells and Their Application

**PHOTOCELLS  
and Their Application**  
by Zworykin  
and Wilson  
reprinted by  
Lindsay Publications

Here's a fascinating  
book! Zworykin is cred-  
ited with making televi-  
sion practical by devel-  
oping the iconoscope

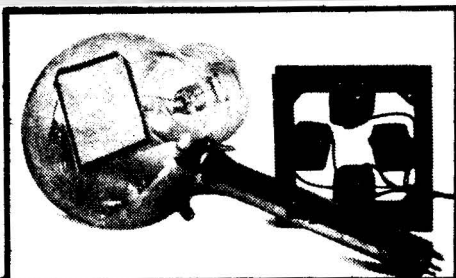


photo-voltaic cells,  
photocell output  
and amplifying  
tubes, optimum  
outputs of photo-  
cells, the problem of  
amplification, spe-  
cial light-sensitive  
devices, the photo-  
cell in photometry  
and colorimetry,

the photocell in  
sound movies, the photocell in  
facsimile, the photocell in televi-  
sion, miscellaneous applica-  
tions, and photocells in the fu-  
ture.

You get great illustrations  
from vacuum pumps, cesium-  
oxide cells, and amplifier sche-  
matics, to a Zworykin multiple  
cell, Nipkow TV system, and  
early FAX machine. This is easy-  
to-read and covers great mat-  
erial. There is a little math, some  
of it heavy, but what do you expect?  
This was written for engineers.

There is limited material on  
cells which produce electricity  
directly from sunlight such as the  
Rayfoto cell, the Photolytic cell,  
the Ruben cell, the Grondahl-  
Gieger cell (a copper oxide cell the  
plans for which are offered else-  
where in this catalog), the  
Sperrschicht cell, and others.  
You won't get how-to-  
build instructions, but you  
might very well get the bits  
and pieces that lead you  
off into a new direction of  
experimentation, or pro-  
vide you with new ideas to  
research in technical lit-  
erature.

This is a great book  
presenting rare informa-  
tion. And it's written by a  
giant in the history of televi-  
sion. It's easy and fun to  
read. The illustrations are great.  
Yes, you know I'm strange, but I  
think that you'll enjoy reading this  
as much as I do. I like it. I think you  
will too. 5x7 paperback 348 pages  
Cat. no. 20560 \$11.95

for RCA that allowed the experi-  
mental TV broadcasts before  
World War II, and with the ex-  
tremely sensitive image orthicon  
that made modern TV possible  
after the war. (I have a couple of  
each of these old tubes in the  
warehouse. They're beautiful de-  
vices!) This book was first  
copyrighted in 1930, with  
this second edition carry-  
ing a 1934 copyright.

You get a complete  
education in photocell  
state-of-the-art as it ex-  
isted in the early 1930's.  
This is the base material  
that lead us to television  
and the solar cell technol-  
ogy.

Chapters include his-  
torical introduction, radi-  
ant energy, photo-emis-  
sive effect, photosensitive films,  
material and apparatus for mak-  
ing photocells, general methods of  
preparing photocells, the vacuum  
photocells, the gas-filled photo-  
cell, photo-conductive photocells,

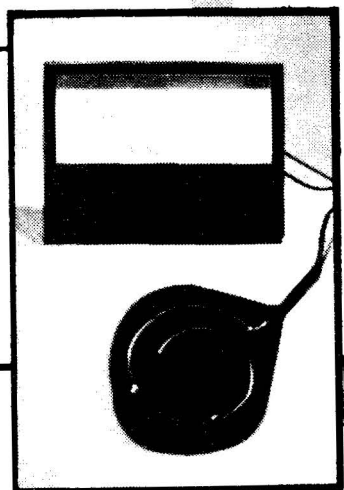
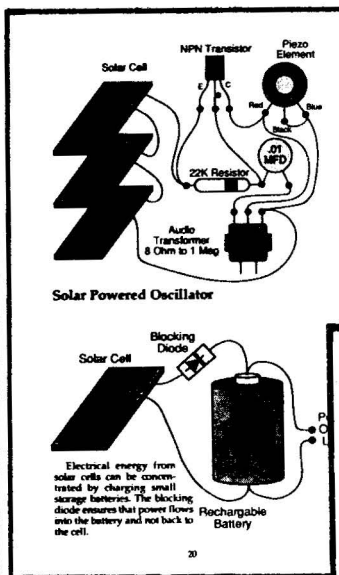


## How to Build a SOLAR CELL That Really Works

by Walt Noon

Yes! You CAN build a solar cell that converts  
sunshine into electricity. And it's really quite easy.

Modern high efficiency solar cells based on  
silicon crystals are difficult and dangerous to  
manufacture. You would need exceptionally ex-  
pensive equipment just to perform the most basic  
experiments. But fortunately there is another  
method.



made by actually painting  
cuprous oxide onto a  
metal surface.  
Cuprous oxide may be  
purchased inexpensively  
in powdered form from many  
chemical supply  
houses including  
those mentioned in  
the text. When  
mixed with a clear  
resin and painted  
thickly on a metal  
surface it will  
take on many  
of the prop-  
erties of a  
cell made  
by the heating process described  
earlier.

So far the cells I've produced  
using this method have gener-  
ated only very small amounts of power. Perhaps  
better resins and techniques could make this the fastest, lowest  
cost cell to fabricate. What would be lost in efficiency could be  
made up in greater surface area.

Final Notes and a Simple Cell

I don't know if the construction of a photoelectric cell such as  
those described in this article is worthwhile versus purchasing  
commercial cells when you take into consideration their low  
efficiency and the time it takes to fabricate them. But I do know

Walt Noon will show you  
how to quickly and inexpen-  
sively build a copper oxide  
photo cell. Admittedly its  
overall efficiency doesn't  
come close to modern silicon  
cells, but neither does the  
cost. You can crank out cells  
for pennies. Connect many  
cells in parallel and series,  
and you can generate surprising  
amounts of power.

The process requires only  
simple tools. The chemicals,  
like all chemicals, can be danger-  
ous if mishandled, but the worst is  
probably nitric acid which is used  
to thoroughly clean the copper.

He'll show you to make a working  
cell, test it, troubleshoot it if necessary,  
and even give you ideas on an experimental  
painted cell that he's working on. In addition,  
he'll give you schematics of test circuits, sample  
applications, and interesting projects that he's tried.  
You'll also get names and addresses of suppliers.

That author is not a professional, but he has safely  
built and used these solar cells, and he's willing to  
show you how its done. You get a 24 page booklet with  
many drawings, schematics and photographs that  
describes the relatively simple process in detail.

Build solar cells! Perhaps you can make some  
improvement in the process that will improve effi-  
ciency. Build electronic equipment. Charge batteries.  
Build a great science fair project. No matter what your  
objective, you'll find this to be a fascinating project  
worth trying. Rare information! Order a copy of this  
inexpensive booklet today. 5 1/2 x 8 1/2 booklet 22  
page  
Cat. no. 819 \$4.95

# BUILD A SOLAR CELL that really works!

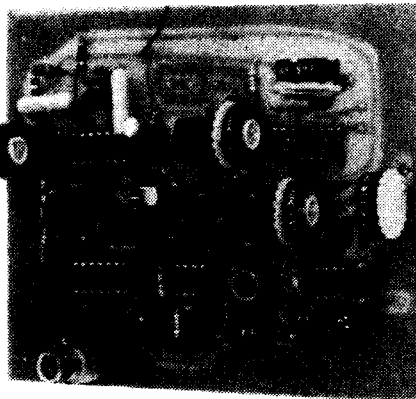
## VIDEO SCRAMBLING & DESCRAMBLING

for Satellite & Cable TV  
by Graf & Sheets

If you have purchased or plan to purchase a satellite dish to capture signals coming from the many Earth-orbiting satellites, this book is for you.

You get:

- An understanding of encoding/decoding systems
- The theory and techniques of video encryption and decryption
- An overview of the rules and regulations governing the availability and use of satellite signals, antennas, and programming materials
- Schematics and details for several encoder and decoder projects.



## Unscramble Video!

Originally published in 1987, this book provides detailed information on everything from simple cable encryption systems to commercial satellite systems such as VideoCipher II™, the B-Mac System, and even the Data Encryption standard.

Although the authors are quick to point out that the information is not be misused in theft of signal, they have provided a wealth of schematics, printed circuit board layouts, IC chip specs, patent reprints, list of satellites and the scrambling systems they use and much more. This is a quality master reference that any video/satellite fanatic will find useful. Order a copy today! 8 1/2 x 11 paperback 246 pages  
Cat. no. 370 \$24.95

## Early FAX & TV Equipment!

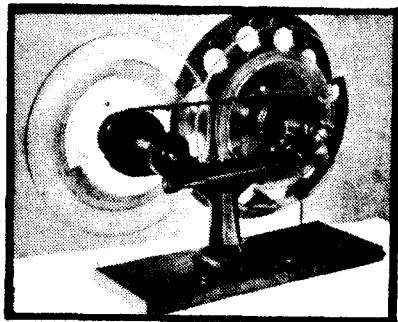
VISION BY RADIO  
Radio Photographs  
Radio Photograms

by C. Francis Jenkins

Go back to 1925 and discover the latest devices developed to transmit photographs, in other words, the earliest fax machines and the earliest televisions!

This is an amazing book! You get details on the electrical components that existed at the time, the tests that had been tried, correspondence from famous people, and historical notes.

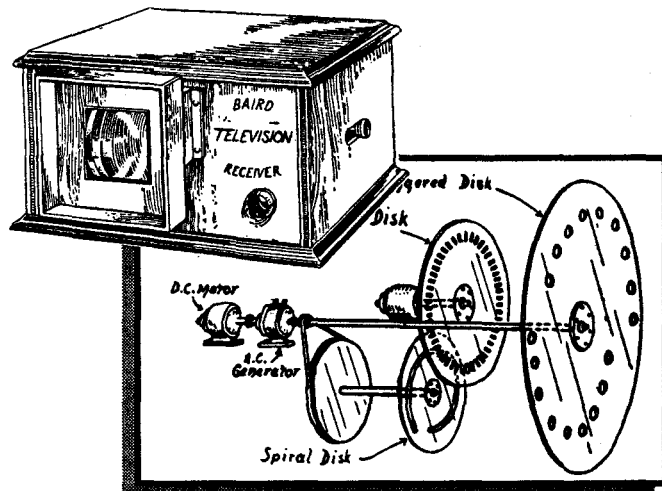
The most interesting section, I think, is illustrated review of existing machines: Nipkow & Sutton, the Amstutz system, the Electrograph, the Baker machine, the Dr. Korn Machine, the Rignoux and Fournier Scheme, the Belin machine, the AT&T machine, RCA's machine, the Braun Tube receiver, pictures by radio in natural colors (!), prismatic disc machines, the Jenkins prismatic ring, Jenkins synchronizing forks, Jenkins picture-strip machine, Jenkins Duplex machine, talking machine photograms,



radio vision (television), Jenkins high speed camera, and more.

Obviously, this book was written and published to glorify Jenkins and Jenkins Laboratories Inc (no doubt so he could make more money). But it delivers more photos, drawings, and patents on early fax and TV equipment than I've ever seen anywhere before.

It's really good, and the price we ask is a mere fraction of what you'd pay for an original if you could find one. Rare information! Excellent book. Get a copy! 5 1/2 x 8 1/2 paperback 140 pages  
Cat. no. 20200 \$9.95



## EXPERIMENTAL TELEVISION

Build a 1932 TV Station!

### EXPERIMENTAL TELEVISION

by A Frederick Collins

reprinted by Lindsay Publications

Build yourself a television station! No, not with iconoscopes, vidicons, nor CCD's, but with those crazy scanning discs that Nipkow devised. Go back to 1932 and let Collins show you "a series of simple experiments with television apparatus and also how to make a complete home television transmitter and television receiver."

Chapters include experiments with light, with vision, with the scanning disk, with the photo-electric cell, with the amplifier tube, with glow tubes and neon lamps, with electric waves, with synchronism, with cathode rays and the oscillograph tube, how to make a television transmitter, and how to make a television receiver. And it comes complete with 185 illustrations by author himself.

You'll learn how to fabricate the scanning discs, synchronize them, make a selenium cell (probably with dangerous,

toxic chemicals), use synchronous motors, build vacuum tube circuits and much more. Although

Collins is known for his books for boys, because of the complexity of this equipment, this book is aimed at readers of all ages.

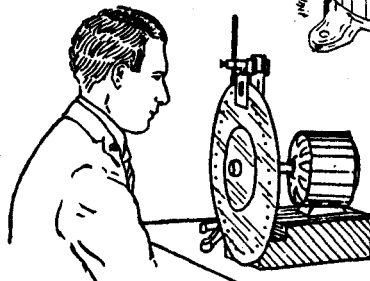
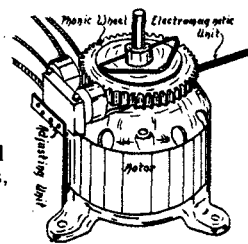
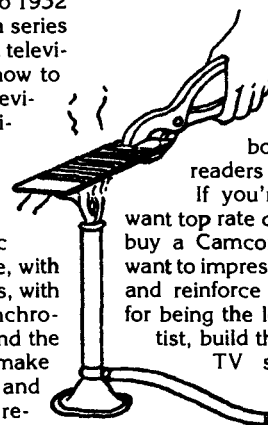
If you're lazy (or just want top rate quality), you can buy a Camcorder. But if you want to impress your neighbors and reinforce your reputation for being the local mad scientist, build this 1932 vintage

TV station. You'll hear- "How did you know how to do that?"

Don't tell them you read it in a book! Make 'em think you're Tesla reincarnated. Careful, though! If you overdo it, they might have you put away!

Fascinating book. It's hard to

believe that TV engineers even seriously considered mechanical scanning. Rare book. If you're lucky enough to find an original of this, it will cost you many times what I'm asking. Worth having. Order a copy today. 5 1/2 x 8 1/2 paperback 313 pages  
Cat. no. 20790 \$14.95





- beginner's simulated laser
- visible red laser
- pulsed laser rifle
- ruby laser gun
- CO2 laser
- laser light detector
- plain field generator
- phaser shock-wave pistol
- ultrasonic generator
- ultrasonic listening device
- 250 kv Tesla Coil
- ion ray gun
- magnetic field distortion detector
- light-beam communicator
- solid-state Tesla coil
- infrared viewer
- FM voice transmitter
- long-range telephone xmtr
- parabolic microphone
- paralyzing device
- wireless repeater xmtr
- much, much more!

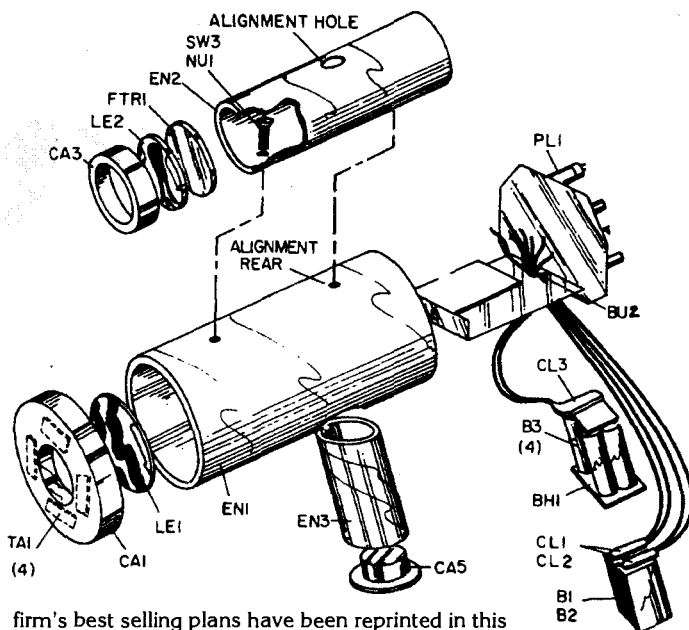
# VERY STRANGE PLANS!

## BUILD YOUR OWN LASER, PHASER, ION RAY GUN...

by Robert E. Lannini

Here's one of the most bizarre collections of how-to plans I have ever seen. You'll learn how to build high-power pulsed red ruby laser gun, high-power continuous IR CO2 Laser, ultrasonic field generator, programmable high-power ultrasonic generator, 250,000 volt Tesla coil, magnetic field distortion detector, solid-state Tesla coil, a variety of wireless "bugs", a super-sensitive parabolic microphone, electronic paralyzing device, battery charger and eliminator and much more.

Lannini is an experienced electronics inventor, and holds many patents. He'll give you parts lists, wiring diagrams, assembly diagrams and all you need to get these projects built. I don't think that it's any coincidence that almost every plan has a footnote telling you that kits are available from Information Unlimited, Inc., which is owned by the author and which advertises in the back of the science and mechanics magazines. No doubt, that



firm's best selling plans have been reprinted in this single volume.

This book is expensive, but it delivers. I really like this, and I'm sure you will too. Order a copy, even if it has to sit for two years on the shelf before you get ready to build. Excellent book. 8 x 9 1/2 paperback 390 pages.

Cat. No. 346

\$17.95

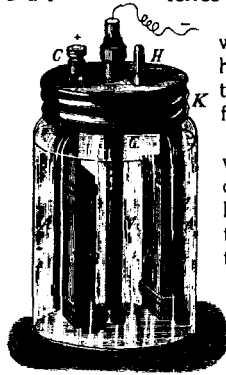
# Primary Batteries

## PRIMARY BATTERIES

by Henry S. Carhart

reprinted by Lindsay Publications

Here's a great little book that covers the characteristics, construction, performance, maintenance, and measurements of primary batteries — batteries that turn chemicals into electricity.



This is not really how-to. What you get is what I call "practical theory" — knowledge that will help you understand turn-of-the-century batteries that few people have ever seen and get the most from them.

Chapters include introduction, simple voltaic cell, potential and electromotive force, closed circuit batteries, open circuit batteries, batteries without a depolarizer, standards of electromotive force, miscellaneous batteries, battery tests, grouping of cells, and thermal relations.

The chapters are actually broken into 118 sections such as experiments on the polarization of a simple cell, defects of the Daniell cell, the bichromate battery, the copper-oxide battery, the closed

Leclanche cell, the Smee cell, the Law battery, the Gassner dry battery, Lord Rayleigh's form of the Clark element, Minchin's seleno-aluminum cell, Jablochkoff's battery, test of a silver chloride cell, grouping dissimilar cells, application of the Bunsen cell, and much more.

This hard-to-find information is essential for understanding how unusual, early batteries now long forgotten work. Brief construction notes will be found in early radio literature, but little else. This book is the "else".

Great reference! Great illustrations! Impress your friends when you fire up your homemade regenerative receiver on a homemade battery! They'll think you're Tesla himself! Worth having. Order a copy! 5x7 paperback 208 pages

Cat. no. 20536

\$8.95



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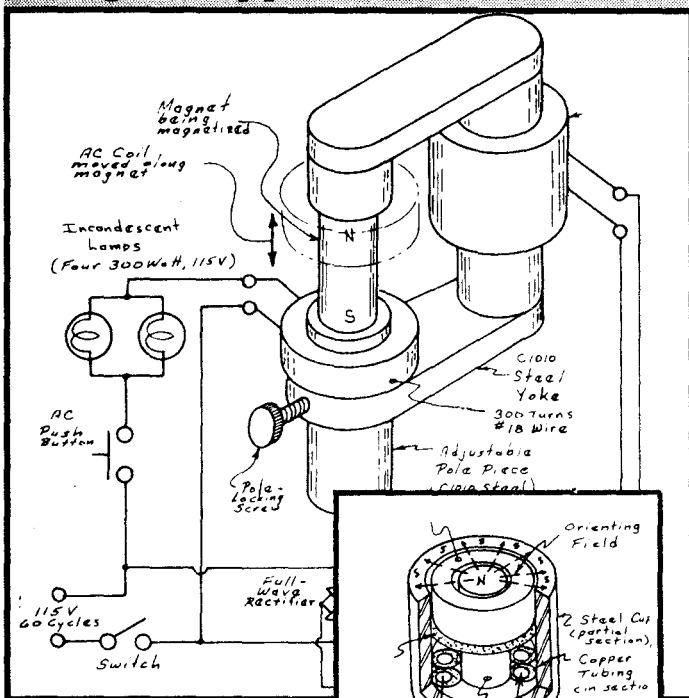
We attempt to keep all books on hand at all times. But it doesn't always work out that way.

Sometimes a magazine article or mention on a radio talk-show produces a deluge of orders, or a large book store wants hundreds of copies. We can run out unexpectedly.

Some of the books you see offered are published by small publishers literally operating out of their garages. All too often when I list a book in my catalog, it produces more sales than that small publisher has ever seen. He runs out. You and I wait for him to print more copies. It happens — too often.

When that happens, we put you on the backorder list, and send the book just as soon as it arrives. You always have the option to cancel the backorder, or do whatever you want to settle the account if you choose not to wait. Just let us know.

# Permanent Magnet Design & Application Handbook!



## PERMANENT MAGNET DESIGN & APPLICATION HANDBOOK

by Lester Moskowitz

Back in print! For now at least... The best magnet book I've seen.

Opening this book gives you the feeling you've opened the lab notebook of a famous magnet scientist. It's loaded with drawings, diagrams, equations, notes, hints, tips, circuit diagrams and more.

Chapters include brief history of magnets, terms and definitions, classification of magnets and materials, basic manufacturing processes, fundamentals of magnetism, general design considerations, leakage and fringing, circuit effects, exact design methods, and on and on.

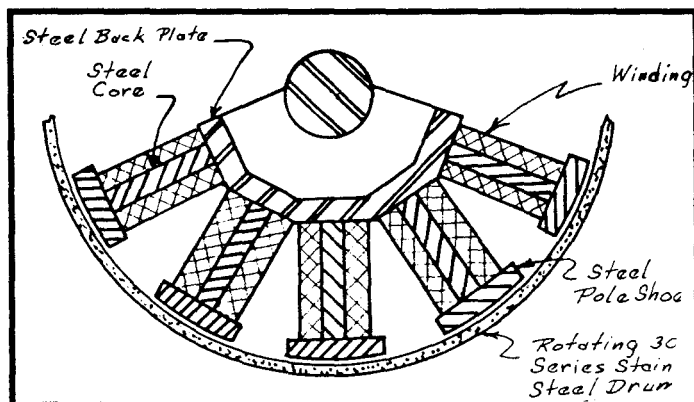
You get all kinds of informa-

tion and making, testing and using magnets from a circuit diagram for a 100 joule impulse magnetizer to suggestions for use in magnetic drives, motors and magnetos, magnetic welding benches and much more.

Expensive! But the best book of its type I've ever seen. Just the right mix of theory and practical application. Rare information. If you think you'll ever need it, get it now. It went out of print once, and is being reprinted (probably only for a short time) by another small publisher. I'm glad to see it's back. 9x12 hardcover 443 pages heavily illustrated

Cat. no. 1149

\$65.00



# ELECTRO- MAGNETS HANDBOOK

Solenoids, Electromagnets  
and Electromagnetic Windings

by Charles R. Underhill

reprinted by Lindsay Publications

Creating an electromagnet is quite easy as Faraday discovered, and as you and I know. But creating an electromagnet that generates a field of needed intensity, drawing minimal amperage at available voltage without overheating is not so easy. Few people know how it's done. Here you'll learn the secrets of creating working electromagnets.

Chapters include: magnetism and permanent magnets, electric circuits, electromagnetic calculations, the solenoid, practical solenoids, iron-clad solenoid, plunger electromagnets, electromagnets with external armatures, electromagnetic phenomena, alternating currents, AC electromagnets, quick-acting electromagnets and methods of reducing sparking, materials and bobbins, insulation of coils, magnet wire, insulated wire, windings, forms of windings, heating of windings, and tables and charts. There are also 233 illustrations listed showing everything from a practical multiple-coil winding to rim solenoids telescoped to form disk solenoids.

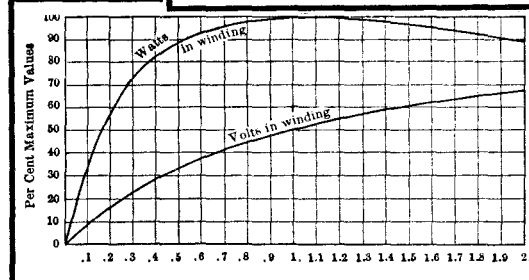
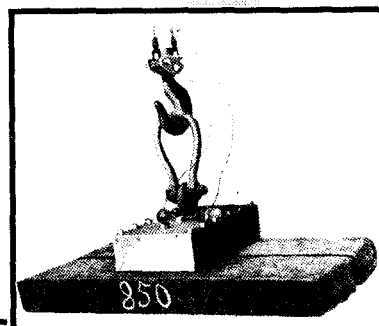
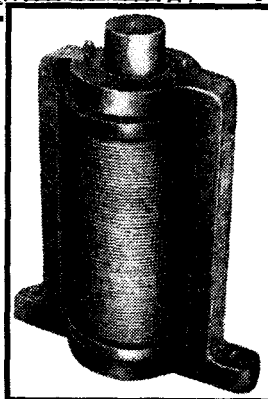
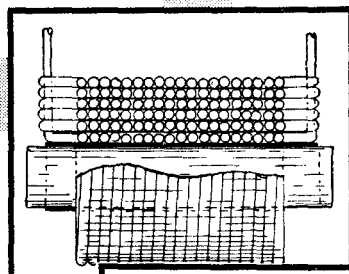
Underhill was a consulting electrical engineer who put this book out in 1910 and created this 2nd edition in 1914. This is reprinted from one of the four thousand printed in 1921.

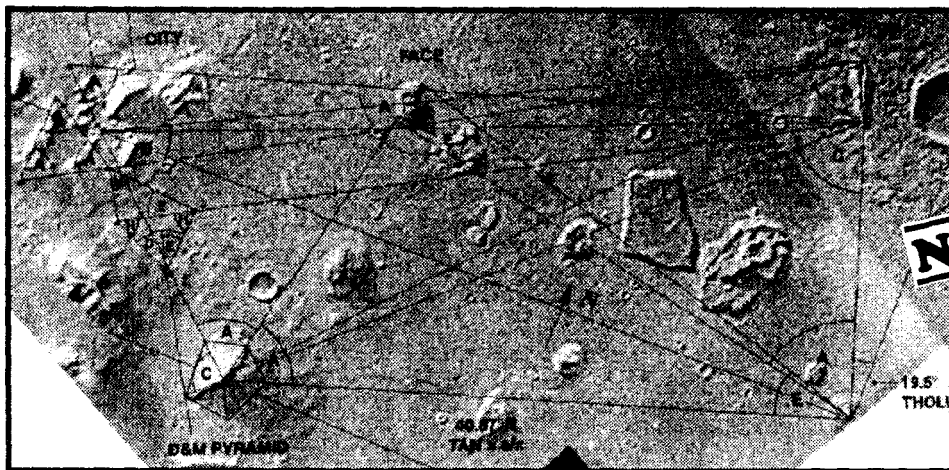
You get a practical book. The math you get is completely practical and useful. The charts are practical. All of the information is practical.

Some things have changed since 1921 such as better insulation and higher-permeability iron, but amps are still and amps and Oersteds are still Oersteds.

Why not build a powerful electromagnet and put it in the bushes outside your house? Pulse the juice to it, and you can roll cars over on their side as they drive by! Imagine the effect it would have on that steel plate your mother-in-law had to have installed in her head after you attacked her with the ax handle! Imagine the fun!

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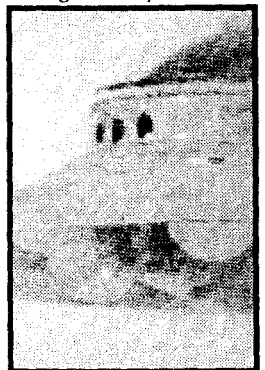
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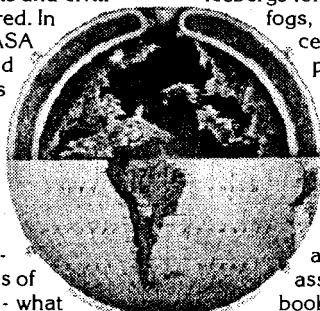
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